SEQUENCE LISTING

<110> SERVANT, GUY
OZECK, MARK
BRUST, PAUL
XU, HONG

<120> FUNCTIONAL COUPLING OF T1RS AND T2RS BY GI PROTEINS AND CELL-BASED ASSAYS FOR THE IDENTIFICATION OF T1R AND T2R MODULATORS

<130> 100337.54281US

<140> 10/770,127
<141> 2004-02-03

<150> 60/444,172
<151> 2003-02-03

<150> 60/457,318
<151> 2003-03-26

<160> 210

<170> PatentIn version 3.2

<210> 1
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<212> PRT
<213> Homo sapiens

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Phe Leu Leu Gly Ile Phe Thr Asn Gly Ile Ile Val Val Val Asn Gly
            20                  25                  30

Ile Asp Leu Ile Lys His Arg Lys Met Ala Pro Leu Asp Leu Leu Leu
        35                  40                  45

Ser Cys Leu Ala Val Ser Arg Ile Phe Leu Gln Leu Phe Ile Phe Tyr
    50                  55                  60

Val Asn Val Ile Val Ile Phe Phe Ile Glu Phe Ile Met Cys Ser Ala
65                  70                  75                  80

Asn Cys Ala Ile Leu Leu Phe Ile Asn Glu Leu Glu Leu Trp Leu Ala
                85                  90                  95

Thr Trp Leu Gly Val Phe Tyr Cys Ala Lys Val Ala Ser Val Arg His
            100                 105                 110

Pro Leu Phe Ile Trp Leu Lys Met Arg Ile Ser Lys Leu Val Pro Trp
        115                 120                 125

Met Ile Leu Gly Ser Leu Leu Tyr Val Ser Met Ile Cys Val Phe His
    130                 135                 140
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Ser Lys Tyr Ala Gly Phe Met Val Pro Tyr Phe Leu Arg Lys Phe Phe
145                 150                 155                 160

Ser Gln Asn Ala Thr Ile Gln Lys Glu Asp Thr Leu Ala Ile Gln Ile
                165                 170                 175

Phe Ser Phe Val Ala Glu Phe Ser Val Pro Leu Leu Ile Phe Leu Phe
            180                 185                 190

Ala Val Leu Leu Leu Ile Phe Ser Leu Gly Arg His Thr Arg Gln Met
        195                 200                 205

Arg Asn Thr Val Ala Gly Ser Arg Val Pro Gly Arg Gly Ala Pro Ile
    210                 215                 220

Ser Ala Leu Leu Ser Ile Leu Ser Phe Leu Ile Leu Tyr Phe Ser His
225                 230                 235                 240

Cys Met Ile Lys Val Phe Leu Ser Ser Leu Lys Phe His Ile Arg Arg
                245                 250                 255

Phe Ile Phe Leu Phe Phe Ile Leu Val Ile Gly Ile Tyr Pro Ser Gly
            260                 265                 270

His Ser Leu Ile Leu Ile Leu Gly Asn Pro Lys Leu Lys Gln Asn Ala
        275                 280                 285

Lys Lys Phe Leu Leu His Ser Lys Cys Cys Gln
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aattgtgcaa ttctcttatt tataaatgaa ttggaacttt ggcttgccac atggctcggc    300

gttttctatt gtgccaaggt tgccagcgtc cgtcacccac tcttcatctg gttgaagatg    360

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gctgagttct cagtgccatt gcttatcttc ctttttgctg ttttgctctt gattttctct    600
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<210> 3
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Glu Phe Phe Thr Gly Ile Thr Val Asn Gly Phe Leu Ile Ile Val Asn
            20                  25                  30

Cys Asn Glu Leu Ile Lys His Arg Lys Leu Met Pro Ile Gln Ile Leu
        35                  40                  45

Leu Met Cys Ile Gly Met Ser Arg Phe Gly Leu Gln Met Val Leu Met
    50                  55                  60

Val Gln Ser Phe Phe Ser Val Phe Phe Pro Leu Leu Tyr Val Lys Ile
65                  70                  75                  80

Ile Tyr Gly Ala Ala Met Met Phe Leu Trp Met Phe Phe Ser Ser Ile
                85                  90                  95

Ser Leu Trp Phe Ala Thr Cys Leu Ser Val Phe Tyr Cys Leu Lys Ile
            100                 105                 110

Ser Gly Phe Thr Gln Ser Cys Phe Leu Trp Leu Lys Phe Arg Ile Pro
        115                 120                 125

Lys Leu Ile Pro Trp Leu Phe Trp Glu Ala Phe Trp Pro Leu Ala Leu
    130                 135                 140

His Leu Cys Val Glu Val Asp Tyr Ala Lys Asn Val Glu Glu Asp Ala
145                 150                 155                 160

Leu Arg Asn Thr Thr Leu Lys Lys Ser Lys Thr Lys Ile Lys Lys Ile
                165                 170                 175

Ser Glu Val Leu Leu Val Asn Leu Ala Leu Ile Phe Pro Leu Ala Ile
            180                 185                 190

Phe Val Met Cys Thr Ser Met Leu Leu Ile Ser Leu Tyr Lys His Thr
        195                 200                 205

His Arg Met Gln His Gly Ser His Gly Phe Arg Asn Ala Asn Thr Glu
    210                 215                 220
```

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Ala His Ile Asn Ala Leu Lys Thr Val Ile Thr Phe Phe Cys Phe Phe
225                 230                 235                 240

Ile Ser Tyr Phe Ala Ala Phe Met Thr Asn Met Thr Phe Ser Leu Pro
                245                 250                 255

Tyr Arg Ser His Gln Phe Phe Met Leu Lys Asp Ile Met Ala Ala Tyr
            260                 265                 270

Pro Ser Gly His Ser Val Ile Ile Ile Leu Ser Asn Ser Lys Phe Gln
        275                 280                 285

Gln Ser Phe Arg Arg Ile Leu Cys Leu Lys Lys Lys Leu
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atggtgttaa tggtacaaag ttttttctct gtgttctttc cactccttta cgtcaaaata    240

atttatggtg cagcaatgat gttcctttgg atgtttttta gctctatcag cctatggttt    300

gccacttgcc tttctgtatt ttactgcctc aagatttcag gcttcactca gtcctgtttt    360

ctttggttga aattcaggat cccaaagtta ataccttggc tgcttctggg aagcgttctg    420

gcctctgtga gcattgcatc tgtgtgtcga ggtagattac gctaaaaatg tggaagagga    480

tgccctcaga aacaccacac taaaaaagag taaaacaaag ataaagaaaa ttagtgaagt    540

gcttcttgtc aacttggcat taatatttcc tctagccata tttgtgatgt gcacttctat    600

gttactcatc tctctttaca agcacactca tcggatgcaa catggatctc atggctttag    660

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tcaccagttc tttatgctga aggacataat ggcagcatat ccctctggcc actcggttat    840

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<213> Homo sapiens

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Met Met Gly Leu Thr Glu Gly Val Phe Leu Ile Leu Ser Gly Thr Gln
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Phe Thr Leu Gly Ile Leu Val Asn Cys Phe Ile Glu Leu Val Asn Gly
            20                  25                  30

Ser Ser Trp Phe Lys Thr Lys Arg Met Ser Leu Ser Asp Phe Ile Ile
        35                  40                  45

Thr Thr Leu Ala Leu Leu Arg Ile Ile Leu Leu Cys Ile Ile Leu Thr
    50                  55                  60

Asp Ser Phe Leu Ile Glu Phe Ser Pro Asn Thr His Asp Ser Gly Ile
65                  70                  75                  80

Ile Met Gln Ile Ile Asp Val Ser Trp Thr Phe Thr Asn His Leu Ser
                85                  90                  95

Ile Trp Leu Ala Thr Cys Leu Gly Val Leu Tyr Cys Leu Lys Ile Ala
            100                 105                 110

Ser Phe Ser His Pro Thr Phe Leu Trp Leu Lys Trp Arg Val Ser Arg
        115                 120                 125

Val Met Val Trp Met Leu Leu Gly Ala Leu Leu Leu Ser Cys Gly Ser
    130                 135                 140

Thr Ala Ser Leu Ile Asn Glu Phe Lys Leu Tyr Ser Val Phe Arg Gly
145                 150                 155                 160

Ile Glu Ala Thr Arg Asn Val Thr Glu His Phe Arg Lys Lys Arg Ser
                165                 170                 175

Glu Tyr Tyr Leu Ile His Val Leu Gly Thr Leu Trp Tyr Leu Pro Pro
            180                 185                 190

Leu Ile Val Ser Leu Ala Ser Tyr Ser Leu Leu Ile Phe Ser Leu Gly
        195                 200                 205

Arg His Thr Arg Gln Met Leu Gln Asn Gly Thr Ser Ser Arg Asp Pro
    210                 215                 220

Thr Thr Glu Ala His Lys Arg Ala Ile Arg Ile Ile Leu Ser Phe Phe
225                 230                 235                 240

Phe Leu Phe Leu Leu Tyr Phe Leu Ala Phe Leu Ile Ala Ser Phe Gly
                245                 250                 255

Asn Phe Leu Pro Lys Thr Lys Met Ala Lys Met Ile Gly Glu Val Met
            260                 265                 270
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Thr Met Phe Tyr Pro Ala Gly His Ser Phe Ile Leu Ile Leu Gly Asn
        275                 280                 285

Ser Lys Leu Lys Gln Thr Phe Val Val Met Leu Arg Cys Glu Ser Gly
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His Leu Lys Pro Gly Ser Lys Gly Pro Ile Phe Ser
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attatcttga ctgatagttt tttaatagaa ttctctccca acacacatga ttcagggata    240

ataatgcaaa ttattgatgt ttcctggaca tttacaaacc atctgagcat ttggcttgcc    300

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tggctcaagt ggagagtttc tagggtgatg gtatggatgc tgttgggtgc actgctctta    420

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tctttgctca tcttctccct ggggaggcac acacggcaga tgctgcaaaa tgggacaagc    660

tccagagatc caaccactga ggcccacaag agggccatca gaatcatcct ttccttcttc    720

tttctcttct tactttactt tcttgctttc ttaattgcat catttggtaa tttcctacca    780

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<210> 7
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Asn Phe Val Gly Ile Ile Met Asn Leu Phe Ile Thr Val Val Asn Cys
            20                  25                  30

Lys Thr Trp Val Lys Ser His Arg Ile Ser Ser Ser Asp Arg Ile Leu
        35                  40                  45

Phe Ser Leu Gly Ile Thr Arg Phe Leu Met Leu Gly Leu Phe Leu Val
    50                  55                  60

Asn Thr Ile Tyr Phe Val Ser Ser Asn Thr Glu Arg Ser Val Tyr Leu
65                  70                  75                  80

Ser Ala Phe Phe Val Leu Cys Phe Met Phe Leu Asp Ser Ser Ser Val
                85                  90                  95

Trp Phe Val Thr Leu Leu Asn Ile Leu Tyr Cys Val Lys Ile Thr Asn
            100                 105                 110

Phe Gln His Ser Val Phe Leu Leu Leu Lys Arg Asn Ile Ser Pro Lys
        115                 120                 125

Ile Pro Arg Leu Leu Leu Ala Cys Val Leu Ile Ser Ala Phe Thr Thr
    130                 135                 140

Cys Leu Tyr Ile Thr Leu Ser Gln Ala Ser Pro Phe Pro Glu Leu Val
145                 150                 155                 160

Thr Thr Arg Asn Asn Thr Ser Phe Asn Ile Ser Glu Gly Ile Leu Ser
                165                 170                 175

Leu Val Val Ser Leu Val Leu Ser Ser Ser Leu Gln Phe Ile Ile Asn
            180                 185                 190

Val Thr Ser Ala Ser Leu Leu Ile His Ser Leu Arg Arg His Ile Gln
        195                 200                 205

Lys Met Gln Lys Asn Ala Thr Gly Phe Trp Asn Pro Gln Thr Glu Ala
    210                 215                 220

His Val Gly Ala Met Lys Leu Met Val Tyr Phe Leu Ile Leu Tyr Ile
225                 230                 235                 240

Pro Tyr Ser Val Ala Thr Leu Val Gln Tyr Leu Pro Phe Tyr Ala Gly
                245                 250                 255

Met Asp Met Gly Thr Lys Ser Ile Cys Leu Ile Phe Ala Thr Leu Tyr
            260                 265                 270

Ser Pro Gly His Ser Val Leu Ile Ile Ile Thr His Pro Lys Leu Lys
        275                 280                 285

Thr Thr Ala Lys Lys Ile Leu Cys Phe Lys Lys
    290                 295
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<212> DNA

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gctttcacca cttgcctgta catcacgctt agccaggcat caccttttcc tgaacttgtg 480

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<213> Homo sapiens

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Arg Glu Trp Ile Arg Lys Phe Asn Trp Ser Ser Tyr Asn Leu Ile Ile
35 40 45

Leu Gly Leu Ala Gly Cys Arg Phe Leu Leu Gln Trp Leu Ile Ile Leu
50 55 60

Asp Leu Ser Leu Phe Pro Leu Phe Gln Ser Ser Arg Trp Leu Arg Tyr
65 70 75 80

Leu Ser Ile Phe Trp Val Leu Val Ser Gln Ala Ser Leu Trp Phe Ala
85 90 95

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Thr Phe Leu Ser Val Phe Tyr Cys Lys Lys Ile Thr Thr Phe Asp Arg
            100                 105                 110

Pro Ala Tyr Leu Trp Leu Lys Gln Arg Ala Tyr Asn Leu Ser Leu Trp
        115                 120                 125

Cys Leu Leu Gly Tyr Phe Ile Ile Asn Leu Leu Leu Thr Val Gln Ile
    130                 135                 140

Gly Leu Thr Phe Tyr His Pro Pro Gln Gly Asn Ser Ser Ile Arg Tyr
145                 150                 155                 160

Pro Phe Glu Ser Trp Gln Tyr Leu Tyr Ala Phe Gln Leu Asn Ser Gly
                165                 170                 175

Ser Tyr Leu Pro Leu Val Val Phe Leu Val Ser Ser Gly Met Leu Ile
            180                 185                 190

Val Ser Leu Tyr Thr His His Lys Lys Met Lys Val His Ser Ala Gly
        195                 200                 205

Arg Arg Asp Val Arg Ala Lys Ala His Ile Thr Ala Leu Lys Ser Leu
    210                 215                 220

Gly Cys Phe Leu Leu Leu His Leu Val Tyr Ile Met Ala Ser Pro Phe
225                 230                 235                 240

Ser Ile Thr Ser Lys Thr Tyr Pro Pro Asp Leu Thr Ser Val Phe Ile
                245                 250                 255

Trp Glu Thr Leu Met Ala Ala Tyr Pro Ser Leu His Ser Leu Ile Leu
            260                 265                 270

Ile Met Gly Ile Pro Arg Val Lys Gln Thr Cys Gln Lys Ile Leu Trp
        275                 280                 285

Lys Thr Val Cys Ala Arg Arg Cys Trp Gly Pro
    290                 295
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ctgatcattt tggacttaag cttgtttcca cttttccaga gcagccgttg gcttcgctat    240

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            20                  25                  30

Arg Gly Trp Val Lys Lys Met Gly Val Pro Ile Asn Ser His Asp Ser
        35                  40                  45

Gly Lys Pro Leu Ser Pro Thr Gln Ala Asp His Val Gly His Lys Ser
    50                  55                  60

Val Ser Thr Phe Pro Glu Gln Trp Leu Ala Leu Leu Ser Cys Leu Arg
65                  70                  75                  80

Val Leu Val Ser Gln Ala Asn Met Phe Ala Thr Phe Phe Ser Gly Phe
                85                  90                  95

Cys Cys Met Glu Ile Met Thr Phe Val Xaa Xaa Xaa Xaa Xaa Xaa Xaa
            100                 105                 110

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Leu Leu Val
        115                 120                 125
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Ser Phe Lys Ile Thr Phe Tyr Phe Ser Ala Leu Val Gly Trp Thr Leu
    130                 135                 140

Lys Pro Leu Thr Gly Asn Ser Asn Ile Leu His Pro Ile Leu Asn Leu
145                 150                 155                 160

Leu Phe Leu Ile Ala Val Gln Arg Arg Leu Ile Ala Ile Cys Asp Val
                165                 170                 175

Ser Val Pro Leu Val Phe Leu Arg His His Arg Lys Met Glu Asp His
            180                 185                 190

Thr Ala Val Arg Arg Arg Leu Lys Pro Arg Xaa Xaa Xaa Xaa Xaa Xaa
    .   195                 200                 205

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Leu Tyr Met Val Ser Ala Leu
    210                 215                 220

Ala Arg His Phe Ser Met Thr Phe Ser Pro Ser Asp Leu Thr Ile Leu
225                 230                 235                 240

Ala Ile Ser Ala Thr Leu Met Ala Val Tyr Thr Ser Phe Pro Ser Ile
                245                 250                 255

Val Met Val Met Arg Asn Gln Thr Cys Gln Arg Ile Leu Glu Met Ile
            260                 265                 270

Cys Thr Trp Lys Ser
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<400> 13

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Phe Ser Val Gly Ile Leu Gly Asn Ala Phe Ile Gly Leu Val Asn Cys
            20                  25                  30

Met Asp Trp Val Lys Lys Arg Lys Ile Ala Ser Ile Asp Leu Ile Leu
        35                  40                  45

Thr Ser Leu Ala Ile Ser Arg Ile Cys Leu Leu Cys Val Ile Leu Leu
    50                  55                  60

Asp Cys Phe Ile Leu Val Leu Tyr Pro Asp Val Tyr Ala Thr Gly Lys
65                  70                  75                  80

Glu Met Arg Ile Ile Asp Phe Phe Trp Thr Leu Thr Asn His Leu Ser
                85                  90                  95

Ile Trp Phe Ala Thr Cys Leu Ser Ile Tyr Tyr Phe Phe Lys Ile Gly
            100                 105                 110

Asn Phe Phe His Pro Leu Phe Leu Trp Met Lys Trp Arg Ile Asp Arg
        115                 120                 125

Val Ile Ser Trp Ile Leu Leu Gly Cys Val Val Leu Ser Val Phe Ile
    130                 135                 140

Ser Leu Pro Ala Thr Glu Asn Leu Asn Ala Asp Phe Arg Phe Cys Val
145                 150                 155                 160

Lys Ala Lys Arg Lys Thr Asn Leu Thr Trp Ser Cys Arg Val Asn Lys
                165                 170                 175

Thr Gln His Ala Ser Thr Lys Leu Phe Leu Asn Leu Ala Thr Leu Leu
            180                 185                 190

Pro Phe Cys Val Cys Leu Met Ser Phe Phe Leu Leu Ile Leu Ser Leu
        195                 200                 205

Arg Arg His Ile Arg Arg Met Gln Leu Ser Ala Thr Gly Cys Arg Asp
    210                 215                 220
```

```
Pro Ser Thr Glu Ala His Val Arg Ala Leu Lys Ala Val Ile Ser Phe
225                 230                 235                 240

Leu Leu Leu Phe Ile Ala Tyr Tyr Leu Ser Phe Leu Ile Ala Thr Ser
            245                 250                 255

Ser Tyr Phe Met Pro Glu Thr Glu Leu Ala Val Ile Phe Gly Glu Ser
        260                 265                 270

Ile Ala Leu Ile Tyr Pro Ser Ser His Ser Phe Ile Leu Ile Leu Gly
    275                 280                 285

Asn Asn Lys Leu Arg His Ala Ser Leu Lys Val Ile Trp Lys Val Met
290                 295                 300

Ser Ile Leu Lys Gly Arg Lys Phe Gln Gln His Lys Gln Ile
305                 310                 315
```

<210> 14
<211> 957
<212> DNA
<213> Homo sapiens

<400> 14

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atggcagata aagtgcagac tactttattg ttcttagcag ttggagagtt ttcagtgggg     60

atcttaggga atgcattcat tggattggta aactgcatgg actgggtcaa gaagaggaaa    120

attgcctcca ttgatttaat cctcacaagt ctggccatat ccagaatttg tctattgtgc    180

gtaatactat tagattgttt tatattggtg ctatatccag atgtctatgc cactggtaaa    240

gaaatgagaa tcattgactt cttctggaca ctaaccaatc atttaagtat ctggtttgca    300

acctgcctca gcatttacta tttcttcaag ataggtaatt tctttcaccc acttttcctc    360

tggatgaagt ggagaattga cagggtgatt tcctggattc tactggggtg cgtggttctc    420

tctgtgttta ttagccttcc agccactgag aatttgaacg ctgatttcag gttttgtgtg    480

aaggcaaaga ggaaaacaaa cttaacttgg agttgcagag taaataaaac tcaacatgct    540

tctaccaagt tatttctcaa cctggcaacg ctgctcccct tttgtgtgtg cctaatgtcc    600

tttttcctct tgatcctctc cctgcggaga catatcaggc gaatgcagct cagtgccaca    660

gggtgcagag accccagcac agaagcccat gtgagagccc tgaaagctgt catttccttc    720

cttctcctct ttattgccta ctatttgtcc tttctcattg ccacctccag ctactttatg    780

ccagagacgg aattagctgt gatttttggt gagtccatag ctctaatcta cccctcaagt    840

cattcattta tcctaatact ggggaacaat aaattaagac atgcatctct aaaggtgatt    900

tggaaagtaa tgtctattct aaaaggaaga aaattccaac aacataaaca aatctga       957
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<210> 15
<211> 309
<212> PRT
<213> Homo sapiens

<400> 15

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Met Phe Ser Pro Ala Asp Asn Ile Phe Ile Ile Leu Ile Thr Gly Glu
1               5                  10                  15

Phe Ile Leu Gly Ile Leu Gly Asn Gly Tyr Ile Ala Leu Val Asn Trp
            20                  25                  30

Ile Asp Trp Ile Lys Lys Lys Lys Ile Ser Thr Val Asp Tyr Ile Leu
        35                  40                  45

Thr Asn Leu Val Ile Ala Arg Ile Cys Leu Ile Ser Val Met Val Val
    50                  55                  60

Asn Gly Ile Val Ile Val Leu Asn Pro Asp Val Tyr Thr Lys Asn Lys
65                  70                  75                  80

Gln Gln Ile Val Ile Phe Thr Phe Trp Thr Phe Ala Asn Tyr Leu Asn
                85                  90                  95

Met Trp Ile Thr Thr Cys Leu Asn Val Phe Tyr Phe Leu Lys Ile Ala
            100                 105                 110

Ser Ser Ser His Pro Leu Phe Leu Trp Leu Lys Trp Lys Ile Asp Met
        115                 120                 125

Val Val His Trp Ile Leu Leu Gly Cys Phe Ala Ile Ser Leu Leu Val
    130                 135                 140

Ser Leu Ile Ala Ala Ile Val Leu Ser Cys Asp Tyr Arg Phe His Ala
145                 150                 155                 160

Ile Ala Lys His Lys Arg Asn Ile Thr Glu Met Phe His Val Ser Lys
                165                 170                 175

Ile Pro Tyr Phe Glu Pro Leu Thr Leu Phe Asn Leu Phe Ala Ile Val
            180                 185                 190

Pro Phe Ile Val Ser Leu Ile Ser Phe Phe Leu Leu Val Arg Ser Leu
        195                 200                 205

Trp Arg His Thr Lys Gln Ile Lys Leu Tyr Ala Thr Gly Ser Arg Asp
    210                 215                 220

Pro Ser Thr Glu Val His Val Arg Ala Ile Lys Thr Met Thr Ser Phe
225                 230                 235                 240

Ile Phe Phe Phe Phe Leu Tyr Tyr Ile Ser Ser Ile Leu Met Thr Phe
                245                 250                 255

Ser Tyr Leu Met Thr Lys Tyr Lys Leu Ala Val Glu Phe Gly Glu Ile
            260                 265                 270
```

Ala Ala Ile Leu Tyr Pro Leu Gly His Ser Leu Ile Leu Ile Val Leu
275 280 285

Asn Asn Lys Leu Arg Gln Thr Phe Val Arg Met Leu Thr Cys Arg Lys
290 295 300

Ile Ala Cys Met Ile
305

<210> 16
<211> 930
<212> DNA
<213> Homo sapiens

<400> 16
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atttccacag ttgactacat ccttaccaat ttagttatcg ccagaatttg tttgatcagt 180

gtaatggttg taaatggcat tgtaatagta ctgaacccag atgtttatac aaaaaataaa 240

caacagatag tcatttttac cttctggaca tttgccaact acttaaatat gtggattacc 300

acctgcctta atgtcttcta ttttctgaag atagccagtt cctctcatcc acttttttctc 360

tggctgaagt ggaaaattga tatggtggtg cactggatcc tgctgggatg ctttgccatt 420

tccttgttgg tcagccttat agcagcaata gtactgagtt gtgattatag gtttcatgca 480

attgccaaac ataaaagaaa cattactgaa atgttccatg tgagtaaaat accatacttt 540

gaacccttga ctctctttaa cctgtttgca attgtcccat ttattgtgtc actgatatca 600

tttttccttt tagtaagatc tttatggaga cataccaagc aaataaaact ctatgctacc 660

ggcagtagag accccagcac agaagttcat gtgagagcca ttaaaactat gacttcattt 720

atcttctttt ttttcctata ctatatttct tctattttga tgacctttag ctatcttatg 780

acaaaataca agttagctgt ggagtttgga gagattgcag caattctcta ccccttgggt 840

cactcactta ttttaattgt tttaaataat aaactgaggc agacatttgt cagaatgctg 900

acatgtagaa aaattgcctg catgatatga 930

<210> 17
<211> 312
<212> PRT
<213> Homo sapiens

<400> 17
Met Pro Ser Ala Ile Glu Ala Ile Tyr Ile Ile Leu Ile Ala Gly Glu
1 5 10 15

```
Leu Thr Ile Gly Ile Trp Gly Asn Gly Phe Ile Val Leu Val Asn Cys
            20                  25                  30

Ile Asp Trp Leu Lys Arg Arg Asp Ile Ser Leu Ile Asp Ile Ile Leu
        35                  40                  45

Ile Ser Leu Ala Ile Ser Arg Ile Cys Leu Leu Cys Val Ile Ser Leu
    50                  55                  60

Asp Gly Phe Phe Met Leu Leu Phe Pro Gly Thr Tyr Gly Asn Ser Val
65                  70                  75                  80

Leu Val Ser Ile Val Asn Val Val Trp Thr Phe Ala Asn Asn Ser Ser
                85                  90                  95

Leu Trp Phe Thr Ser Cys Leu Ser Ile Phe Tyr Leu Leu Lys Ile Ala
            100                 105                 110

Asn Ile Ser His Pro Phe Phe Phe Trp Leu Lys Leu Lys Ile Asn Lys
        115                 120                 125

Val Met Leu Ala Ile Leu Leu Gly Ser Phe Leu Ile Ser Leu Ile Ile
    130                 135                 140

Ser Val Pro Lys Asn Asp Asp Met Trp Tyr His Leu Phe Lys Val Ser
145                 150                 155                 160

His Glu Glu Asn Ile Thr Trp Lys Phe Lys Val Ser Lys Ile Pro Gly
                165                 170                 175

Thr Phe Lys Gln Leu Thr Leu Asn Leu Gly Val Met Val Pro Phe Ile
            180                 185                 190

Leu Cys Leu Ile Ser Phe Phe Leu Leu Leu Phe Ser Leu Val Arg His
        195                 200                 205

Thr Lys Gln Ile Arg Leu His Ala Thr Gly Phe Arg Asp Pro Ser Thr
    210                 215                 220

Glu Ala His Met Arg Ala Ile Lys Ala Val Ile Ile Phe Leu Leu Leu
225                 230                 235                 240

Leu Ile Val Tyr Tyr Pro Val Phe Leu Val Met Thr Ser Ser Ala Leu
                245                 250                 255

Ile Pro Gln Gly Lys Leu Val Leu Met Ile Gly Asp Ile Val Thr Val
            260                 265                 270

Ile Phe Pro Ser Ser His Ser Phe Ile Leu Ile Met Gly Asn Ser Lys
        275                 280                 285

Leu Arg Glu Ala Phe Leu Lys Met Leu Arg Phe Val Lys Cys Phe Leu
    290                 295                 300

Arg Arg Arg Lys Pro Phe Val Pro
305                 310
```

<210> 18
<211> 939
<212> DNA
<213> Homo sapiens

<400> 18
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atttggggaa atggattcat tgtactagtt aactgcattg actggctcaa aagaagagat 120

atttccttga ttgacatcat cctgatcagc ttggccatct ccagaatctg tctgctgtgt 180

gtaatatcat tagatggctt ctttatgctg ctctttccag gtacatatgg caatagcgtg 240

ctagtaagca ttgtgaatgt tgtctggaca tttgccaata attcaagtct ctggtttact 300

tcttgcctca gtatcttcta tttactcaag atagccaata tatcgcaccc atttttcttc 360

tggctgaagc taaagatcaa caaggtcatg cttgcgattc ttctggggtc ctttcttatc 420

tctttaatta ttagtgttcc aaagaatgat gatatgtggt atcacctttt caaagtcagt 480

catgaagaaa acattacttg gaaattcaaa ctgagtaaaa ttccaggtac tttcaaacag 540

ttaaccctga acctgggggt gatggttccc tttatccttt gcctgatctc atttttcttg 600

ttacttttct ccctagttag acacaccaag cagattcgac tgcatgctac agggttcaga 660

gaccccagta cagaggccca catgagggcc ataaaggcag tgatcatctt tctgctcctc 720

ctcatcgtgt actacccagt ctttcttgtt atgacctcta gcgctctgat tcctcaggga 780

aaattagtgt tgatgattgg tgacatagta actgtcattt tcccatcaag ccattcattc 840

attctaatta tgggaaatag caagttgagg gaagctttc tgaagatgtt aagatttgtg 900

aagtgtttcc ttagaagaag aaagcctttt gttccatag 939

<210> 19
<211> 307
<212> PRT
<213> Homo sapiens

<400> 19
Met Leu Arg Val Val Glu Gly Ile Phe Ile Phe Val Val Val Ser Glu
1 5 10 15

Ser Val Phe Gly Val Leu Gly Asn Gly Phe Ile Gly Leu Val Asn Cys
20 25 30

Ile Asp Cys Ala Lys Asn Lys Leu Ser Thr Ile Gly Phe Ile Leu Thr
35 40 45

Gly Leu Ala Ile Ser Arg Ile Phe Leu Ile Trp Ile Ile Ile Thr Asp
50 55 60

```
Gly Phe Ile Gln Ile Phe Ser Pro Asn Ile Tyr Ala Ser Gly Asn Leu
65                  70                  75                  80

Ile Glu Tyr Ile Ser Tyr Phe Trp Val Ile Gly Asn Gln Ser Ser Met
                85                  90                  95

Trp Phe Ala Thr Ser Leu Ser Ile Phe Tyr Phe Leu Lys Ile Ala Asn
            100                 105                 110

Phe Ser Asn Tyr Ile Phe Leu Trp Leu Lys Ser Arg Thr Asn Met Val
        115                 120                 125

Leu Pro Phe Met Ile Val Phe Leu Leu Ile Ser Ser Leu Leu Asn Phe
    130                 135                 140

Ala Tyr Ile Ala Lys Ile Leu Asn Asp Tyr Lys Thr Lys Asn Asp Thr
145                 150                 155                 160

Val Trp Asp Leu Asn Met Tyr Lys Ser Glu Tyr Phe Ile Lys Gln Ile
                165                 170                 175

Leu Leu Asn Leu Gly Val Ile Phe Phe Phe Thr Leu Ser Leu Ile Thr
            180                 185                 190

Cys Ile Phe Leu Ile Ile Ser Leu Trp Arg His Asn Arg Gln Met Gln
        195                 200                 205

Ser Asn Val Thr Gly Leu Arg Asp Ser Asn Thr Glu Ala His Val Lys
    210                 215                 220

Ala Met Lys Val Leu Ile Ser Phe Ile Ile Leu Phe Ile Leu Tyr Phe
225                 230                 235                 240

Ile Gly Met Ala Ile Glu Ile Ser Cys Phe Thr Val Arg Glu Asn Lys
                245                 250                 255

Leu Leu Leu Met Phe Gly Met Thr Thr Thr Ala Ile Tyr Pro Trp Gly
            260                 265                 270

His Ser Phe Ile Leu Ile Leu Gly Asn Ser Lys Leu Lys Gln Ala Ser
        275                 280                 285

Leu Arg Val Leu Gln Gln Leu Lys Cys Cys Glu Lys Arg Lys Asn Leu
    290                 295                 300

Arg Val Thr
305
```

<210> 20
<211> 924
<212> DNA
<213> Homo sapiens

<400> 20
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tctacgattg gctttattct caccggctta gctatttcaa gaatttttct gatatggata 180

ataattacag atggatttat acagatattc tctccaaata tatatgcctc cggtaaccta 240

attgaatata ttagttactt ttgggtaatt ggtaatcaat caagtatgtg gtttgccacc 300

agcctcagca tcttctattt cctgaagata gcaaattttt ccaactacat atttctctgg 360

ttgaagagca gaacaaatat ggttcttccc ttcatgatag tattcttact tatttcatcg 420

ttacttaatt ttgcatacat tgcgaagatt cttaatgatt ataaaacgaa gaatgacaca 480

gtctgggatc tcaacatgta taaaagtgaa tactttatta aacagatttt gctaaatctg 540

ggagtcattt tcttctttac actatcccta attacatgta ttttttaat catttccctt 600

tggagacaca acaggcagat gcaatcgaat gtgacaggat tgagagactc caacacagaa 660

gctcatgtga aggcaatgaa agttttgata tctttcatca tcctctttat cttgtatttt 720

ataggcatgg ccatagaaat atcatgtttt actgtgcgag aaaacaaact gctgcttatg 780

tttggaatga caaccacagc catctatccc tggggtcact catttatctt aattctagga 840

aacagcaagc taaagcaagc ctctttgagg gtactgcagc aattgaagtg ctgtgagaaa 900

aggaaaaatc tcagagtcac atag 924

<210> 21
<211> 242
<212> PRT
<213> Homo sapiens

<220>
<221> MOD_RES
<222> (58)..(89)
<223> Variable amino acid

<400> 21

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Met Ala Asn Met Leu Lys Asn Met Leu Thr Met Ile Ser Ala Ile Asp
1               5                  10                  15

Phe Ile Met Gly Ile Gln Arg Ser Arg Val Met Val Leu Val His Cys
            20                  25                  30

Ile Asp Trp Ile Arg Arg Trp Lys Leu Ser Leu Ile Asp Phe Ile Leu
        35                  40                  45

Thr Cys Trp Ala Ile Ser Arg Ile Phe Xaa Xaa Xaa Xaa Xaa Xaa Xaa
    50                  55                  60

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
65                  70                  75                  80

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Asn His Leu Cys Thr Phe Ala
                85                  90                  95
```

```
Thr Cys Leu Ala Val Phe Tyr Phe Leu Lys Ile Val Asn Phe Ser Tyr
            100                 105                 110

Leu Phe Tyr Phe Trp Leu Lys Trp Arg Ile Asn Lys Val Ala Phe Ile
        115                 120                 125

Leu Pro Leu Val Ser Ala Phe Ser Val Tyr Gln Leu Ser Phe Asp Val
    130                 135                 140

His Phe Cys Leu Leu Val Ser Cys Pro Lys Lys Tyr Glu Arg His Met
145                 150                 155                 160

Thr Gly Leu Leu Asn Val Ser Asn Asn Lys Asn Val Asn Asn Ile Ile
                165                 170                 175

Ile Phe Phe Ile Gly Ser Leu Ser Ser Phe Ser Ile Ser Ser Ile Phe
            180                 185                 190

Phe Leu Leu Leu Leu Leu Ser Ser Arg His Met Lys His Ile Arg Phe
        195                 200                 205

Asn Phe Arg Asp Cys Arg Thr Pro Val Tyr Gly Pro Ile Ser Glu Pro
    210                 215                 220

Arg Lys Arg Phe Ser Phe Phe Val Leu Leu Leu Tyr Lys Asn Leu Pro
225                 230                 235                 240

Phe Ser
```

<210> 22
<211> 309
<212> PRT
<213> Homo sapiens

```
<400> 22
Met Ser Ser Ile Trp Glu Thr Leu Phe Ile Arg Ile Leu Val Val Phe
1               5                   10                  15

Ile Met Gly Thr Val Gly Asn Phe Ile Val Leu Val Asn Ile Ile Asp
            20                  25                  30

Ile Arg Asn Lys Val Ser Leu Ile Asp Phe Ile Leu Asn Cys Leu Ala
        35                  40                  45

Ile Ser Arg Ile Cys Phe Leu Ile Thr Ile Leu Ala Thr Ser Phe Asn
    50                  55                  60

Ile Gly Tyr Glu Lys Met Pro Asp Ser Lys Asn Leu Ala Val Ser Phe
65                  70                  75                  80

Asp Ile Leu Trp Thr Gly Ser Ser Tyr Phe Cys Leu Ser Cys Thr Thr
                85                  90                  95

Cys Leu Ser Val Phe Tyr Phe Leu Lys Val Ala Asn Phe Ser Asn Pro
            100                 105                 110
```

```
Ile Phe Leu Trp Met Lys Trp Lys Ile His Lys Val Leu Leu Phe Ile
        115                 120                 125

Val Leu Glu Ala Thr Ile Ser Phe Cys Thr Thr Ser Ile Leu Lys Glu
    130                 135                 140

Ile Ile Ile Asn Ser Leu Ile Glu Arg Val Thr Ile Lys Gly Asn Leu
145                 150                 155                 160

Thr Phe Asn Tyr Met Asp Thr Met His Asp Phe Thr Ser Leu Phe Leu
                165                 170                 175

Leu Gln Met Met Phe Ile Leu Pro Phe Val Glu Thr Leu Ala Ser Ile
            180                 185                 190

Leu Leu Leu Ile Leu Ser Leu Trp Ser His Thr Arg Gln Met Lys Leu
        195                 200                 205

His Gly Ile Tyr Ser Arg Asp Pro Ser Thr Glu Ala His Val Lys Pro
    210                 215                 220

Ile Lys Ala Ile Ile Ser Phe Leu Leu Leu Phe Ile Val His Tyr Phe
225                 230                 235                 240

Ile Ser Ile Ile Leu Thr Leu Ala Cys Pro Leu Leu Asp Phe Val Ala
                245                 250                 255

Ala Arg Thr Phe Ser Ser Val Leu Val Phe Phe His Pro Ser Gly His
            260                 265                 270

Ser Phe Leu Leu Ile Leu Arg Asp Ser Lys Leu Lys Gln Ala Ser Leu
        275                 280                 285

Cys Val Leu Lys Lys Met Lys Tyr Ala Lys Lys Asp Ile Ile Ser His
    290                 295                 300

Phe Tyr Lys His Ala
305
```

<210> 23
<211> 948
<212> DNA
<213> Homo sapiens

<400> 23

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atgtcaagca tttgggagac actgtttata agaattcttg tagtgtaatt cataatgggg     60

actgtgggaa attgattcat tgtattggtt aatatcattg actgaatcag gaactgaaag    120

gtctccctga ttgattttat tctcaactgc ttggccatct ccaggatatg tttcctgtag    180

ataacaattt tagctacctc tttcaatata ggctatgaga aaatgcctga ttctaagaat    240

cttgcagtaa gttttgacat tctctggaca ggatccagct atttctgcct gtcctgtacc    300

acttgcctca gtgtcttcta tttcctcaag gtagccaact tctccaatcc cattttcctc    360
```

tggatgaaat ggaaaattca caaggtgctt ctctttattg tactagaggc aacgatctct 420

ttctgcacaa cttccattct gaaggaaata ataattaata gtttaatcta agaacgggta 480

acaataaaag gcaacttgac atttaattat atggatacca tgcatgattt cacttctctg 540

tttctccttc agatgatgtt catccttcct tttgtggaaa cactggcttc cattcttctc 600

ttaatcctct ccttatggag ccacaccagg cagatgaagc tacatggtat ttattccagg 660

gatcccagca cagaagccca tgtaaaacct ataaaagcta taatttcatt tctactcctc 720

tttattgtgc attatttcat cagtatcata ctaacattgg cctgtcctct tctagacttc 780

gttgcggcaa ggacttttag tagtgtgctg gtatttttcc atccatctgg ccattcattt 840

cttctaattt tacgggacag caaactgaag caagcttctc tctgtgtcct gaagaagatg 900

aagtatgcca aaaaggacat aatctctcat ttttataaac atgcctga 948

<210> 24
<211> 303
<212> PRT
<213> Homo sapiens

<400> 24

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Met Glu Ser Ala Leu Pro Ser Ile Phe Thr Leu Val Ile Ile Ala Glu
1               5                  10                  15

Phe Ile Ile Gly Asn Leu Ser Asn Gly Phe Ile Val Leu Ile Asn Cys
            20                  25                  30

Ile Asp Trp Val Ser Lys Arg Glu Leu Ser Ser Val Asp Lys Leu Leu
        35                  40                  45

Ile Ile Leu Ala Ile Ser Arg Ile Gly Leu Ile Trp Glu Ile Leu Val
    50                  55                  60

Ser Trp Phe Leu Ala Leu His Tyr Leu Ala Ile Phe Val Ser Gly Thr
65                  70                  75                  80

Gly Leu Arg Ile Met Ile Phe Ser Trp Ile Val Ser Asn His Phe Asn
                85                  90                  95

Leu Trp Leu Ala Thr Ile Phe Ser Ile Phe Tyr Leu Leu Lys Ile Ala
            100                 105                 110

Ser Phe Ser Ser Pro Ala Phe Leu Tyr Leu Lys Trp Arg Val Asn Lys
        115                 120                 125

Val Ile Leu Met Ile Leu Leu Gly Thr Leu Val Phe Leu Phe Leu Asn
    130                 135                 140

Leu Ile Gln Ile Asn Met His Ile Lys Asp Trp Leu Asp Arg Tyr Glu
145                 150                 155                 160
```

```
Arg Asn Thr Thr Trp Asn Phe Ser Met Ser Asp Phe Glu Thr Phe Ser
                165                 170                 175

Val Ser Val Lys Phe Thr Met Thr Met Phe Ser Leu Thr Pro Phe Thr
            180                 185                 190

Val Ala Phe Ile Ser Phe Leu Leu Leu Ile Phe Ser Leu Gln Lys His
        195                 200                 205

Leu Gln Lys Met Gln Leu Asn Tyr Lys Gly His Arg Asp Pro Arg Thr
    210                 215                 220

Lys Val His Thr Asn Ala Leu Lys Ile Val Ile Ser Phe Leu Leu Phe
225                 230                 235                 240

Tyr Ala Ser Phe Phe Leu Cys Val Leu Ile Ser Trp Ile Ser Glu Leu
                245                 250                 255

Tyr Gln Asn Thr Val Ile Tyr Met Leu Cys Glu Thr Ile Gly Val Phe
            260                 265                 270

Ser Pro Ser Ser His Ser Phe Leu Leu Ile Leu Gly Asn Ala Lys Leu
        275                 280                 285

Arg Gln Ala Phe Leu Leu Val Ala Ala Lys Val Trp Ala Lys Arg
    290                 295                 300
```

<210> 25
<211> 912
<212> DNA
<213> Homo sapiens

<400> 25

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atggaaagtg ccctgccgag tatcttcact cttgtaataa ttgcagaatt cataattggg     60

aatttgagca atggatttat agtactgatc aactgcattg actgggtcag taaaagagag    120

ctgtcctcag tcgataaact cctcattatc ttggcaatct ccagaattgg gctgatctgg    180

gaaatattag taagttggtt tttagctctg cattatctag ccatatttgt gtctggaaca    240

ggattaagaa ttatgatttt tagctggata gtttctaatc acttcaatct ctggcttgct    300

acaatcttca gcatctttta tttgctcaaa atagcgagtt tctctagccc tgcttttctc    360

tatttgaagt ggagagtaaa caaagtgatt ctgatgatac tgctaggaac cttggtcttc    420

ttatttttaa atctgataca aataaacatg catataaaag actggctgga ccgatatgaa    480

agaaacacaa cttggaattt cagtatgagt gactttgaaa cattttcagt gtcggtcaaa    540

ttcactatga ctatgttcag tctaacacca tttactgtgg ccttcatctc ttttctcctg    600

ttaattttct ccctgcagaa acatctccag aaaatgcaac tcaattacaa aggacacaga    660

gaccccagga ccaaggtcca tacaaatgcc ttgaaaattg tgatctcatt ccttttattc    720
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tatgctagtt tctttctatg tgttctcata tcatggattt ctgagctgta tcagaacaca 780

gtgatctaca tgctttgtga gacgattgga gtcttctctc cttcaagcca ctcctttctt 840

ctgattctag gaaacgctaa gttaagacag gcctttcttt tggtggcagc taaggtatgg 900

gctaaacgat ga 912

<210> 26
<211> 317
<212> PRT
<213> Homo sapiens

<400> 26

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Met Gly Gly Val Ile Lys Ser Ile Phe Thr Phe Val Leu Ile Val Glu
1               5                  10                  15

Phe Ile Ile Gly Asn Leu Gly Asn Ser Phe Ile Ala Leu Val Asn Cys
            20                  25                  30

Ile Asp Trp Val Lys Gly Arg Lys Ile Ser Ser Val Asp Arg Ile Leu
        35                  40                  45

Thr Ala Leu Ala Ile Ser Arg Ile Ser Leu Val Trp Leu Ile Phe Gly
    50                  55                  60

Ser Trp Cys Val Ser Val Phe Phe Pro Ala Leu Phe Ala Thr Glu Lys
65                  70                  75                  80

Met Phe Arg Met Leu Thr Asn Ile Trp Thr Val Ile Asn His Phe Ser
                85                  90                  95

Val Trp Leu Ala Thr Gly Leu Gly Thr Phe Tyr Phe Leu Lys Ile Ala
            100                 105                 110

Asn Phe Ser Asn Ser Ile Phe Leu Tyr Leu Lys Trp Arg Val Lys Lys
        115                 120                 125

Val Val Leu Val Leu Leu Leu Val Thr Ser Val Phe Leu Phe Leu Asn
    130                 135                 140

Ile Ala Leu Ile Asn Ile His Ile Asn Ala Ser Ile Asn Gly Tyr Arg
145                 150                 155                 160

Arg Asn Lys Thr Cys Ser Ser Asp Ser Ser Asn Phe Thr Arg Phe Ser
                165                 170                 175

Ser Leu Ile Val Leu Thr Ser Thr Val Phe Ile Phe Ile Pro Phe Thr
            180                 185                 190

Leu Ser Leu Ala Met Phe Leu Leu Leu Ile Phe Ser Met Trp Lys His
        195                 200                 205

Arg Lys Lys Met Gln His Thr Val Lys Ile Ser Gly Asp Ala Ser Thr
    210                 215                 220
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Lys Ala His Arg Gly Val Lys Ser Val Ile Thr Phe Phe Leu Leu Tyr
225                 230                 235                 240

Ala Ile Phe Ser Leu Ser Phe Phe Ile Ser Val Trp Thr Ser Glu Arg
                245                 250                 255

Leu Glu Glu Asn Leu Ile Ile Leu Ser Gln Val Met Gly Met Ala Tyr
            260                 265                 270

Pro Ser Cys His Ser Cys Val Leu Ile Leu Gly Asn Lys Lys Leu Arg
        275                 280                 285

Gln Ala Ser Leu Ser Val Leu Leu Trp Leu Arg Tyr Met Phe Lys Asp
    290                 295                 300

Gly Glu Pro Ser Gly His Lys Glu Phe Arg Glu Ser Ser
305                 310                 315
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<210> 27
<211> 954
<212> DNA
<213> Homo sapiens

<400> 27

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aatttaggaa atagtttcat agcactggtg aactgtattg actgggtcaa gggaagaaag    120

atctcttcgg ttgatcggat cctcactgct ttggcaatct ctcgaattag cctggtttgg    180

ttaatattcg gaagctggtg tgtgtctgtg tttttcccag ctttatttgc cactgaaaaa    240

atgttcagaa tgcttactaa tatctggaca gtgatcaatc attttagtgt ctggttagct    300

acaggcctcg gtacttttta ttttctcaag atagccaatt tttctaactc tatttttctc    360

tacctaaagt ggagggttaa aaaggtggtt ttggtgctgc ttcttgtgac ttcggtcttc    420

ttgtttttaa atattgcact gataaacatc catataaatg ccagtatcaa tggatacaga    480

agaaacaaga cttgcagttc tgattcaagt aactttacac gattttccag tcttattgta    540

ttaaccagca ctgtgttcat tttcataccc tttactttgt ccctggcaat gtttcttctc    600

ctcatcttct ccatgtggaa acatcgcaag aagatgcagc acactgtcaa aatatccgga    660

gacgccagca ccaaagccca cagaggagtt aaaagtgtga tcactttctt cctactctat    720

gccatttttct ctctgtcttt tttcatatca gtttggacct ctgaaaggtt ggaggaaaat    780

ctaattattc tttcccaggt gatgggaatg gcttatcctt catgtcactc atgtgttctg    840

attcttggaa acaagaagct gagacaggcc tctctgtcag tgctactgtg gctgaggtac    900

atgttcaaag atggggagcc ctcaggtcac aaagaattta gagaatcatc ttga          954
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<210> 28
<211> 299
<212> PRT
<213> Homo sapiens

<400> 28

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Met Ile Thr Phe Leu Pro Ile Ile Phe Ser Ile Leu Val Val Val Thr
1               5                  10                  15

Phe Val Leu Gly Asn Phe Ala Asn Gly Phe Ile Val Leu Val Asn Ser
            20                  25                  30

Ile Glu Trp Val Lys Arg Gln Lys Ile Ser Phe Ala Asp Gln Ile Leu
        35                  40                  45

Thr Ala Leu Ala Val Ser Arg Val Gly Leu Leu Trp Val Ile Leu Leu
    50                  55                  60

His Trp Tyr Ala Thr Val Leu Asn Pro Gly Ser Tyr Ser Leu Gly Val
65                  70                  75                  80

Arg Ile Thr Thr Ile Asn Ala Trp Ala Val Thr Asn His Phe Ser Ile
                85                  90                  95

Trp Val Ala Thr Ser Leu Ser Ile Phe Tyr Phe Leu Lys Ile Ala Asn
            100                 105                 110

Phe Ser Asn Phe Ile Phe Leu His Leu Lys Arg Arg Ile Lys Ser Val
        115                 120                 125

Ile Pro Val Ile Leu Leu Gly Ser Leu Leu Phe Leu Val Cys His Leu
    130                 135                 140

Val Val Val Asn Met Asp Glu Ser Met Trp Thr Lys Glu Tyr Glu Gly
145                 150                 155                 160

Asn Val Ser Trp Glu Ile Lys Leu Ser Asp Pro Thr His Leu Ser Asp
                165                 170                 175

Met Thr Val Thr Thr Leu Ala Asn Leu Ile Pro Phe Thr Leu Ser Leu
            180                 185                 190

Leu Ser Phe Leu Leu Leu Ile Cys Ser Leu Cys Lys His Leu Lys Lys
        195                 200                 205

Met Gln Phe His Gly Lys Gly Ser Pro Asp Ser Asn Thr Lys Val His
    210                 215                 220

Ile Lys Ala Leu Gln Thr Val Thr Ser Phe Leu Leu Leu Phe Ala Val
225                 230                 235                 240

Tyr Phe Leu Ser Leu Ile Thr Ser Ile Trp Asn Phe Arg Arg Arg Leu
                245                 250                 255

Asn Glu Pro Val Leu Met Leu Ser Gln Thr Thr Ala Ile Ile Tyr Pro
            260                 265                 270
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Ser Phe His Ser Phe Ile Leu Ile Trp Gly Ser Lys Lys Leu Lys Gln
275 280 285

Thr Phe Leu Leu Ile Leu Cys Gln Ile Lys Cys
290 295

<210> 29
<211> 903
<212> DNA
<213> Homo sapiens

<400> 29
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aattttgcta atggcttcat agtgttggta aattccattg agtgggtcaa gagacaaaag 120

atctcctttg ctgaccaaat tctcactgct ctggcagtct ccagagttgg tttgctctgg 180

gtaatattat tacattggta tgcaactgtt ttgaatccag gttcatatag tttaggagta 240

agaattacta ctattaatgc ctgggctgta accaaccatt tcagcatctg ggttgctact 300

agcctcagca tattttattt cctcaagatt gccaatttct ccaactttat ttttcttcac 360

ttaaaaagga gaattaagag tgtcattcca gtgatactat tggggtcttt gttatttttg 420

gtttgtcatc ttgttgtggt aaacatggat gagagtatgt ggacaaaaga atatgaagga 480

aacgtgagtt gggagatcaa attgagtgat ccgacgcacc tttcagatat gactgtaacc 540

acgcttgcaa acttaatacc ctttactctg tccctgttat cttttctgct cttaatctgt 600

tctttgtgta aacatctcaa gaagatgcag ttccatggca aaggatctcc agattccaac 660

accaaggtcc acataaaagc tttgcaaacg gtgacctcct tcctcttgtt atttgctgtt 720

tactttctgt ccctaatcac atcgatttgg aattttagga ggaggctgta gaacgaacct 780

gtcctcatgc tcagccaaac tactgcaatt atataccctt catttcattc attcatccta 840

atttggggaa gcaagaagct gaaacagacc tttcttttga ttttgtgtca gattaagtgc 900

tga 903

<210> 30
<211> 291
<212> PRT
<213> Homo sapiens

<400> 30
Met Ile Pro Ile Gln Leu Thr Val Phe Phe Met Ile Ile Tyr Val Leu
1 5 10 15

Glu Ser Leu Thr Ile Ile Val Gln Ser Ser Leu Ile Val Ala Val Leu
20 25 30

```
Gly Arg Glu Trp Leu Gln Val Arg Arg Leu Met Pro Val Asp Met Ile
        35                  40                  45

Leu Ile Ser Leu Gly Ile Ser Arg Phe Cys Leu Gln Trp Ala Ser Met
    50                  55                  60

Leu Asn Asn Phe Cys Ser Tyr Phe Asn Leu Asn Tyr Val Leu Cys Asn
65                  70                  75                  80

Leu Thr Ile Thr Trp Glu Phe Phe Asn Ile Leu Thr Phe Trp Leu Asn
                85                  90                  95

Ser Leu Leu Thr Val Phe Tyr Cys Ile Lys Val Ser Ser Phe Thr His
            100                 105                 110

His Ile Phe Leu Trp Leu Arg Trp Arg Ile Leu Arg Leu Phe Pro Trp
        115                 120                 125

Ile Leu Leu Gly Ser Leu Met Ile Thr Cys Val Thr Ile Ile Pro Ser
    130                 135                 140

Ala Ile Gly Asn Tyr Ile Gln Ile Gln Leu Leu Thr Met Glu His Leu
145                 150                 155                 160

Pro Arg Asn Ser Thr Val Thr Asp Lys Leu Glu Asn Phe His Gln Tyr
                165                 170                 175

Gln Phe Gln Ala His Thr Val Ala Leu Val Ile Pro Phe Ile Leu Phe
            180                 185                 190

Leu Ala Ser Thr Ile Phe Leu Met Ala Ser Leu Thr Lys Gln Ile Gln
        195                 200                 205

His His Ser Thr Gly His Cys Asn Pro Ser Met Lys Ala Arg Phe Thr
    210                 215                 220

Ala Leu Arg Ser Leu Ala Val Leu Phe Ile Val Phe Thr Ser Tyr Phe
225                 230                 235                 240

Leu Thr Ile Leu Ile Thr Ile Ile Gly Thr Leu Phe Asp Lys Arg Cys
                245                 250                 255

Trp Leu Trp Val Trp Glu Ala Phe Val Tyr Ala Phe Ile Leu Met His
            260                 265                 270

Ser Thr Ser Leu Met Leu Ser Ser Pro Thr Leu Lys Arg Ile Leu Lys
        275                 280                 285

Gly Lys Cys
    290
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<210> 31
<211> 876
<212> DNA
<213> Homo sapiens

<400> 31
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attattgtgc agagcagcct aattgttgca gtgctgggca gagaatggct gcaagtcaga 120

aggctgatgc ctgtggacat gattctcatc agcctgggca tctctcgctt ctgtctacag 180

tgggcatcaa tgctgaacaa tttttgctcc tattttaatt tgaattatgt actttgcaac 240

ttaacaatca cctgggaatt ttttaatatc cttacattct ggttaaacag cttgcttacc 300

gtgttctact gcatcaaggt ctcttctttc acccatcaca tctttctctg gctgaggtgg 360

agaattttga ggttgtttcc ctggatatta ctgggttctc tgatgattac ttgtgtaaca 420

atcatccctt cagctattgg gaattacatt caaattcagt tactcaccat ggagcatcta 480

ccaagaaaca gcactgtaac tgacaaactt gaaaattttc atcagtatca gttccaggct 540

catacagttg cattggttat tcctttcatc ctgttcctgg cctccaccat ctttctcatg 600

gcatcactga ccaagcagat acaacatcat agcactggtc actgcaatcc aagcatgaaa 660

gcgcgcttca ctgccctgag gtcccttgcc gtcttattta ttgtgtttac ctcttacttt 720

ctaaccatac tcatcaccat tataggtact ctatttgata agagatgttg gttatgggtc 780

tgggaagctt ttgtctatgc tttcatctta atgcattcca cttcactgat gctgagcagc 840

cctacgttga aaaggattct aaagggaaag tgctag 876

<210> 32
<211> 330
<212> PRT
<213> Homo sapiens

<220>
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<222> (5)..(5)
<223> Variable amino acid

<220>
<221> MOD_RES
<222> (61)..(61)
<223> Variable amino acid

<220>
<221> MOD_RES
<222> (207)..(207)
<223> Variable amino acid

<400> 32
Met Cys Ser Ala Xaa Leu Leu Ile Ile Leu Ser Ile Leu Val Val Phe
1 5 10 15

Ala Phe Val Leu Gly Asn Val Ala Asn Gly Phe Ile Ala Leu Ile Asn
20 25 30

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Val Asn Asp Trp Val Lys Thr Gln Lys Ile Ser Ser Thr Asp Gln Ile
        35                  40                  45

Val Thr Ala Leu Ala Phe Ser Arg Ile Gly Leu Leu Xaa Thr Leu Ile
    50                  55                  60

Ile Leu Leu His Trp Tyr Ala Thr Val Phe Asn Ser Ala Leu Tyr Ser
65                  70                  75                  80

Leu Glu Val Arg Ile Val Pro Ser Asn Val Ser Ala Ile Ile Asn His
                85                  90                  95

Phe Ser Ile Trp Leu Ala Thr Ser Leu Ser Ile Phe Tyr Leu Phe Lys
            100                 105                 110

Ile Ala Asn Phe Ser Asn Phe Ile Phe Leu His Leu Lys Lys Arg Ile
        115                 120                 125

Lys Ser Val Leu Leu Val Ile Leu Leu Gly Ser Leu Val Phe Leu Ile
    130                 135                 140

Cys Asn Leu Ala Val Val Thr Met Asp Asp Ser Val Trp Thr Lys Glu
145                 150                 155                 160

Phe Glu Gly Asn Val Thr Trp Lys Ile Glu Leu Arg Asn Ala Ile His
                165                 170                 175

Leu Ser Asn Met Thr Ile Thr Asn His Ala Ser Lys Leu His Thr Val
            180                 185                 190

His Ser Asp Ser Asn Ile Phe Ser Ala Val Ser Leu Phe Ser Xaa Thr
        195                 200                 205

Met Leu Ala Asn Phe Thr Leu Phe Ile Leu Thr Leu Ile Ser Phe Leu
    210                 215                 220

Leu Leu Val Cys Ser Pro Cys Lys His Leu Lys Met Met Gln Leu His
225                 230                 235                 240

Gly Lys Gly Ser Gln Asp Leu Ser Thr Lys Val His Ile Lys Pro Leu
                245                 250                 255

Gln Thr Val Ile Ser Phe Arg Met Leu Phe Ala Ile Tyr Phe Leu Cys
            260                 265                 270

Ile Ile Thr Ser Thr Trp Asn Pro Arg Thr Gln Gln Ser Asn Leu Val
        275                 280                 285

Phe Leu Leu Tyr Gln Thr Leu Ala Ile Met Tyr Pro Ser Phe His Ser
    290                 295                 300

Phe Ile Leu Ile Met Arg Ser Arg Lys Leu Lys Gln Thr Ser Leu Ser
305                 310                 315                 320

Val Leu Cys Gln Val Thr Cys Trp Val Lys
                325                 330
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<210> 33
<211> 313
<212> PRT
<213> Homo sapiens

<400> 33
Met Phe Val Gly Ile Asn Ile Phe Phe Leu Val Val Ala Thr Arg Gly
1 5 10 15

Leu Val Leu Gly Met Leu Gly Asn Gly Leu Ile Gly Leu Val Asn Cys
20 25 30

Ile Glu Trp Ala Lys Ser Trp Lys Val Ser Ser Ala Asp Phe Ile Leu
35 40 45

Thr Ser Leu Ala Ile Val Arg Ile Ile Arg Leu Tyr Leu Ile Leu Phe
50 55 60

Asp Ser Phe Ile Met Val Leu Ser Pro His Leu Tyr Thr Ile Arg Lys
65 70 75 80

Leu Val Lys Leu Phe Thr Ile Leu Trp Ala Leu Ile Asn Gln Leu Ser
85 90 95

Ile Phe Ala Thr Cys Leu Ser Ile Phe Tyr Leu Leu Lys Ile Ala Asn
100 105 110

Phe Ser His Ser Leu Phe Leu Trp Leu Lys Trp Arg Met Asn Gly Met
115 120 125

Ile Val Met Leu Leu Ile Leu Ser Leu Phe Leu Leu Ile Phe Asp Ser
130 135 140

Leu Val Leu Glu Ile Phe Ile Asp Ile Ser Leu Asn Ile Ile Asp Lys
145 150 155 160

Ser Asn Leu Thr Leu Tyr Leu Asp Glu Ser Lys Thr Leu Tyr Asp Lys
165 170 175

Leu Ser Ile Leu Lys Thr Leu Leu Ser Leu Thr Tyr Val Ile Pro Phe
180 185 190

Leu Leu Thr Leu Thr Ser Leu Leu Leu Leu Phe Ile Ser Leu Val Arg
195 200 205

His Thr Lys Asn Leu Gln Leu Asn Ser Leu Gly Ser Arg Asp Ser Ser
210 215 220

Thr Glu Ala His Lys Arg Ala Met Lys Met Val Ile Ala Phe Leu Leu
225 230 235 240

Leu Phe Ile Ile Asn Phe Ile Ser Thr Leu Ile Gly Asp Trp Ile Phe
245 250 255

Leu Glu Val Glu Asn Tyr Gln Val Met Met Phe Ile Met Met Ile Leu
260 265 270

Leu Ala Phe Pro Ser Gly His Ser Phe Ile Ile Ile Leu Gly Asn Asn
275 280 285

Lys Leu Arg Gln Ser Ser Leu Arg Leu Leu Trp His Leu Lys Phe Ser
290 295 300

Leu Lys Lys Ala Lys Pro Leu Thr Ser
305 310

<210> 34
<211> 945
<212> DNA
<213> Homo sapiens

<400> 34
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atgctgggaa acgggctcat tggactggta aactgcattg agtgggccaa gagttggaag 120

gtctcatcag ctgatttcat cctcaccagc ttggctatag tcagaatcat tcgactgtat 180

ttaatactat ttgattcatt tataatggta ttgtcccctc atctatatac catccgtaaa 240

ctagtaaaac tgtttactat tctttgggca ttaattaatc agttaagtat ctagtttgcc 300

acctgcctaa gcattttcta cttgcttaag atagccaatt tctcccactc ccttttcctc 360

tggctgaagt ggagaatgaa cggaatgatt gttatgcttc ttatattgtc tttgttctta 420

ctgatttttg acagtttagt gctagaaata tttattgata tctcactcaa tataatagat 480

aaaagtaatc tgactttata tttagatgaa agtaaaactc tctatgataa actctctatt 540

ttaaaaactc ttctcagctt gacatacgtt attccctttc ttctgactct gacctctttg 600

ctccttttat ttatatcctt agtgagacac accaagaatt tgcagctcaa ctctctgggc 660

tcaagggact ccagcacaga ggcccataaa agggccatga aaatggtgat agccttcctc 720

ctccttttta ttattaactt tatttccact ttaataggag attggatctt ccttgaggta 780

gagaattatc aggtcatgat gtttattatg atgattttac ttgcctttcc ctcaggccac 840

tcatttatta taattttggg aaacaacaag ctaagacaga gctccttgag actactgtgg 900

catcttaaat tctctctgaa aaaagcaaaa cctttaactt catag 945

<210> 35
<211> 121
<212> PRT
<213> Homo sapiens

<400> 35
Val Thr Thr Leu Ala Asn Leu Ile Pro Phe Thr Leu Ser Leu Ile Cys
1 5 10 15

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Phe Leu Leu Leu Ile Cys Ser Leu Cys Lys His Leu Lys Lys Met Arg
            20                  25                  30

Leu His Ser Lys Gly Ser Gln Asp Pro Ser Thr Lys Val His Ile Lys
        35                  40                  45

Ala Leu Gln Thr Val Thr Ser Phe Leu Met Leu Phe Ala Ile Tyr Phe
    50                  55                  60

Leu Cys Ile Ile Thr Ser Thr Trp Asn Leu Arg Thr Gln Gln Ser Lys
65                  70                  75                  80

Leu Val Leu Leu Leu Cys Gln Thr Val Ala Ile Met Tyr Pro Ser Phe
                85                  90                  95

His Ser Phe Ile Leu Ile Met Gly Ser Arg Lys Leu Lys Gln Thr Phe
            100                 105                 110

Leu Ser Val Leu Trp Gln Met Thr Cys
        115                 120
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<210> 36
<211> 466
<212> DNA
<213> Homo sapiens

<400> 36
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taatctgttc tctttgtaaa catctcaaga agatgcggct ccatagcaaa ggatctcaag 120

atcccagcac caaggtccat ataaaagctt tgcaaactgt gacctccttc ctcatgttat 180

ttgccattta ctttctgtgt ataatcacat caacttggaa tcttaggaca cagcagagca 240

aacttgtact cctgctttgc caaactgttg caatcatgta tccttcattc cactcattca 300

tcctgattat gggaagtagg aagctaaaac agacctttct ttcagttttg tggcagatga 360

catgctgagt gaaagaagag aaaccctcaa ctccatagat tcacaagggg agcatcgtgg 420

gtcttctagc agaaaacaaa ctgatggtgt ctggaacatt ttatat 466

<210> 37
<211> 129
<212> PRT
<213> Homo sapiens

<220>
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<222> (3)..(3)
<223> Variable amino acid

<400> 37
His Leu Xaa Arg Lys Ala Lys Ser Val Val Leu Val Ile Val Leu Gly
1   5   10   15

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Ser Leu Phe Phe Leu Val Cys Gln Leu Val Met Lys Asn Thr Tyr Ile
            20                  25                  30

Asn Val Trp Thr Glu Glu Cys Glu Gly Asn Val Thr Trp Lys Ile Lys
        35                  40                  45

Leu Arg Asn Ala Met His Leu Ser Asn Leu Thr Val Ala Met Leu Ala
    50                  55                  60

Asn Leu Ile Pro Phe Thr Leu Thr Val Ile Ser Phe Leu Leu Leu Ile
65                  70                  75                  80

Tyr Ser Leu Cys Lys His Leu Lys Lys Met Gln Leu His Gly Lys Gly
                85                  90                  95

Ser Gln Asp Pro Ser Thr Lys Ile His Ile Lys Ala Leu Gln Thr Val
            100                 105                 110

Thr Ser Phe Leu Val Leu Leu Ala Ile Tyr Phe Leu Cys Leu Ile Ile
        115                 120                 125

Ser
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<210> 38
<211> 397
<212> DNA
<213> Homo sapiens

<220>
<221> modified_base
<222> (12)..(12)
<223> n is a, c, g, or t

<400> 38
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tctttttggt ttgtcaactt gtgatgaaaa acacgtatat aaatgtgtgg acagaagaat 120

gtgaaggaaa cgtaacttgg aagatcaaac tgaggaatgc aatgcacctt tccaacttga 180

ctgtagccat gctagcaaac ttgataccat tcactctgac cgtgatatct tttctgctgt 240

taatctactc tctgtgtaaa catctgaaga agatgcagct ccatggcaaa ggatctcaag 300

atcccagcac caagatccac ataaaagctc tgcaaactgt gacctccttc ctcgtattac 360

ttgccattta ctttctgtgt ctaatcatat ccttttg 397

<210> 39
<211> 299
<212> PRT
<213> Homo sapiens

<400> 39

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Met Pro Pro Gly Ile Gly Asn Thr Phe Leu Ile Val Met Met Gly Glu
1               5                  10                  15

Phe Ile Ile Met Leu Gly Asn Gly Phe Ile Val Leu Val Asn Cys Ile
            20                  25                  30

Asp Trp Gly Val Lys Ser Tyr Thr Thr Ala Ser Ser Pro Ala Trp Leu
        35                  40                  45

Ser Pro Gln Ser Val Asn Phe Gly Tyr Tyr Leu Ile His Leu Gln His
    50                  55                  60

Tyr Gly His Ile Tyr Met Pro Ser Ile Asn Asn Leu Phe Ile Phe Phe
65                  70                  75                  80

Gly His Pro Ile Thr Leu Pro Gly Leu Leu Pro Cys Phe Leu Leu Leu
                85                  90                  95

Asn Thr Tyr Phe Ser His Pro Cys Phe Ile Trp Leu Arg Trp Arg Ile
            100                 105                 110

Ser Arg Thr Leu Leu Glu Leu Pro Leu Gly Ser Leu Leu Leu Leu Phe
        115                 120                 125

Phe Asn Leu Ala Leu Thr Gly Gly Leu Ser Asp Leu Trp Ile Asn Ile
    130                 135                 140

Tyr Thr Ile Tyr Glu Arg Asn Ser Thr Trp Ser Leu Asp Val Ser Lys
145                 150                 155                 160

Ile Leu Tyr Cys Ser Leu Trp Ile Leu Val Ser Leu Ile Tyr Leu Ile
                165                 170                 175

Ser Phe Leu Leu Ser Leu Ile Ser Leu Leu Leu Leu Ile Leu Ser Leu
            180                 185                 190

Met Arg His Ile Arg Asn Leu Gln Leu Asn Thr Met Gly Pro Arg Asp
        195                 200                 205

Leu Arg Met Lys Ala His Lys Arg Ala Met Lys Met Lys Met Lys Met
    210                 215                 220

Met Val Ser Phe Leu Leu Phe Phe Leu Val His Phe Ser Ser Leu Leu
225                 230                 235                 240

Pro Thr Gly Trp Ile Phe Leu Ile Gln Gln Lys Gln Ala Asn Phe Phe
                245                 250                 255

Val Leu Leu Thr Ser Ile Ile Phe Pro Ser Ser His Ser Phe Val Leu
            260                 265                 270

Ile Leu Glu Asn Cys Lys Leu Arg Gln Thr Ala Val Gly Pro Leu Trp
        275                 280                 285

His Leu Lys Cys His Leu Lys Arg Val Lys Leu
    290                 295
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<210> 40
<211> 90
<212> PRT
<213> Homo sapiens

<220>
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<222> (35)..(35)
<223> Variable amino acid

<220>
<221> MOD_RES
<222> (39)..(39)
<223> Variable amino acid

<220>
<221> MOD_RES
<222> (82)..(82)
<223> Variable amino acid

<400> 40
Met Ala Thr Glu Ser Asp Thr Asn Leu Leu Ile Leu Ala Ile Ala Glu
1 5 10 15

Phe Ile Ile Ser Met Leu Gly Asn Val Phe Ile Gly Leu Val Asn Cys
20 25 30

Ser Glu Xaa Ile Lys Asn Xaa Lys Val Phe Ser Ala Asp Phe Ile Leu
35 40 45

Thr Cys Leu Ala Ile Ser His Asn Gly Gln Leu Leu Val Ile Leu Phe
50 55 60

Asp Ser Phe Leu Val Gly Leu Ala Ser His Leu Tyr Thr Thr Tyr Arg
65 70 75 80

Leu Xaa Lys Asn Cys Ile Met Leu Trp Thr
85 90

<210> 41
<211> 656
<212> DNA
<213> Homo sapiens

<220>
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<222> (10)..(10)
<223> n is a, c, g, or t

<220>
<221> modified_base
<222> (68)..(68)
<223> n is a, c, g, or t

<220>
<221> modified_base
<222> (82)..(82)
<223> n is a, c, g, or t

<220>
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<222> (112)..(112)
<223> n is a, c, g, or t

<220>
<221> modified_base
<222> (125)..(125)
<223> n is a, c, g, or t

<220>
<221> modified_base
<222> (187)..(187)
<223> n is a, c, g, or t

<220>
<221> modified_base
<222> (242)..(242)
<223> n is a, c, g, or t

<220>
<221> modified_base
<222> (260)..(260)
<223> n is a, c, g, or t

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<221> modified_base
<222> (282)..(282)
<223> n is a, c, g, or t

<220>
<221> modified_base
<222> (397)..(397)
<223> n is a, c, g, or t

<220>
<221> modified_base
<222> (411)..(411)
<223> n is a, c, g, or t

<220>
<221> modified_base
<222> (538)..(538)
<223> n is a, c, g, or t

<220>
<221> modified_base
<222> (629)..(629)
<223> n is a, c, g, or t

<400> 41
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actgcatncc ttagtagatc tnttgggata tatattcata atatagaaaa anaggcaaag 120

acttncttaa gtatatgaga ctctatccaa cagcagaagg ttctgatcaa gactggaagt 180

gcaatanaag caatgaagat aagtatcaga tatgaatgct cttctgcaat ggtctgattg 240

tnacattatt aatgatacan agtattaaaa acttggattt tnttgtctct ggagatggcc 300

accgaatcgg acacaaatct tctgattctg gcaatagcag aattcatcat cagcatgctg 360

gggaatgtgt tcattggact ggtaaactgc tctgaangga tcaagaacca naaggtcttc 420

tcagctgact tcatcctcac ctgcttggct atctctcaca atggacaact gttggtgata 480

ctgtttgatt catttctagt gggacttgct tcacatctat ataccacata tagactanga 540

aaaaactgta ttatgctttg gacatgacta atcacttgac acactgcttc gcacgtgcta 600

gcatattcta ttcttagata gccacttcnc actccttgtc tctgctgaag tgggat 656

<210> 42
<211> 70
<212> PRT
<213> Homo sapiens

<220>
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<222> (21)..(21)
<223> Variable amino acid

<220>
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<222> (44)..(44)
<223> Variable amino acid

<220>
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<222> (47)..(47)
<223> Variable amino acid

<220>
<221> MOD_RES
<222> (62)..(62)
<223> Variable amino acid

<400> 42

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Val Ala Phe Val Leu Gly Asn Val Ala Asn Gly Phe Ile Ala Leu Val
1               5                  10                  15

Asn Val Ile Asp Xaa Val Asn Thr Arg Lys Ile Ser Ser Ala Glu Gln
            20                  25                  30

Ile Leu Thr Ala Leu Val Val Ser Arg Ile Gly Xaa Thr Leu Xaa His
        35                  40                  45
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Ser Ile Pro Asp Ala Thr Arg Cys Ser Ala Leu Tyr Arg Xaa Glu Val
50 55 60

Arg Ile Val Ala Ser Asn
65 70

<210> 43
<211> 589
<212> DNA
<213> Homo sapiens

<220>
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<222> (39)..(39)
<223> n is a, c, g, or t

<220>
<221> modified_base
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<223> n is a, c, g, or t

<220>
<221> modified_base
<222> (321)..(321)
<223> n is a, c, g, or t

<220>
<221> modified_base
<222> (375)..(375)
<223> n is a, c, g, or t

<220>
<221> modified_base
<222> (414)..(414)
<223> n is a, c, g, or t

<220>
<221> modified_base
<222> (481)..(482)
<223> n is a, c, g, or t

<220>
<221> modified_base
<222> (490)..(490)
<223> n is a, c, g, or t

<220>
<221> modified_base
<222> (541)..(541)
<223> n is a, c, g, or t

<400> 43
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gagaatgtat atgaagagga gtgaatttga gtctgtttga gaataatgac cttttctatt 120

tctataaaga cagttttgaa ttcatctatt agcatatgct ggtgcttgcc tgttgacact 180

agtcactgaa tttaaaggca gaaaatgtta ttgcacattt agtaatcaag tgttcatcga 240

agttaacatc tggatgttaa aggactcaga acaagtgtta ctaagcctgc atttttttat 300

ctgttcaaac atgatgtgtt ntctgctcat catttcatca attctggtag agttgcattt 360

gttcttggaa atgtngccaa tggcttcata gctctagtaa atgtcattga ctgngttaac 420

acacgaaaga tctcctcagc tgagcaaatt ctcactgctc tggtggtctc cagaattggt 480

nntactctgn gtcatagtat tccttgagat gcaactagat gttaatctgc tctatatagg 540

ntagaagtaa gaattgttgc ttctaatgcc tgagctcgta cgaaccatt 589

<210> 44
<211> 314
<212> PRT
<213> Homo sapiens

<400> 44

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Met Ala Thr Glu Leu Asp Lys Ile Phe Leu Ile Leu Ala Ile Ala Glu
1               5                  10                  15

Phe Ile Ile Ser Met Leu Gly Asn Val Phe Ile Gly Leu Val Asn Cys
            20                  25                  30

Ser Glu Gly Ile Lys Asn Gln Lys Val Phe Ser Ala Asp Phe Ile Leu
        35                  40                  45

Thr Cys Leu Ala Ile Ser Thr Ile Gly Gln Leu Leu Val Ile Leu Phe
    50                  55                  60

Asp Ser Phe Leu Val Gly Leu Ala Ser His Leu Tyr Thr Thr Tyr Arg
65                  70                  75                  80

Leu Gly Lys Thr Val Ile Met Leu Trp His Met Thr Asn His Leu Thr
                85                  90                  95

Thr Trp Leu Ala Thr Cys Leu Ser Ile Phe Tyr Phe Phe Lys Ile Ala
            100                 105                 110

His Phe Pro His Ser Leu Phe Leu Trp Leu Arg Trp Arg Met Asn Gly
        115                 120                 125

Met Ile Val Met Leu Leu Ile Leu Ser Leu Phe Leu Leu Ile Phe Asp
    130                 135                 140

Ser Leu Val Leu Glu Ile Phe Ile Asp Ile Ser Leu Asn Ile Ile Asp
145                 150                 155                 160

Lys Ser Asn Leu Thr Leu Tyr Leu Asp Glu Ser Lys Thr Leu Tyr Asp
                165                 170                 175

Lys Leu Ser Ile Leu Lys Thr Leu Leu Ser Leu Thr Ser Phe Ile Pro
            180                 185                 190
```

```
Phe Ser Leu Phe Leu Thr Ser Leu Leu Phe Leu Phe Leu Ser Leu Val
        195                 200                 205

Arg His Thr Arg Asn Leu Lys Leu Ser Ser Leu Gly Ser Arg Asp Ser
    210                 215                 220

Ser Thr Glu Ala His Arg Arg Ala Met Lys Met Val Met Ser Phe Leu
225                 230                 235                 240

Phe Leu Phe Ile Val His Phe Phe Ser Leu Gln Val Ala Asn Gly Ile
                245                 250                 255

Phe Phe Met Leu Trp Asn Asn Lys Tyr Ile Lys Phe Val Met Leu Ala
            260                 265                 270

Leu Asn Ala Phe Pro Ser Cys His Ser Phe Ile Leu Ile Leu Gly Asn
        275                 280                 285

Ser Lys Leu Arg Gln Thr Ala Val Arg Leu Leu Trp His Leu Arg Asn
    290                 295                 300

Tyr Thr Lys Thr Pro Asn Ala Leu Pro Leu
305                 310
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<210> 45
<211> 945
<212> DNA
<213> Homo sapiens

<400> 45

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atgctgggga atgtgttcat tggactggta aactgctctg aagggatcaa gaaccaaaag    120

gtcttctcag ctgacttcat cctcacctgc ttggctatct ccacaattgg acaactgttg    180

gtgatactgt ttgattcatt tctagtggga cttgcttcac atttatatac cacatataga    240

ctaggaaaaa ctgttattat gctttggcac atgactaatc acttgacaac ctggcttgcc    300

acctgcctaa gcattttcta tttctttaag atagcccact tcccccactc ccttttcctc    360

tggctgaggt ggaggatgaa cggaatgatt gttatgcttc ttatattgtc tttgttctta    420

ctgatttttg acagtttagt gctagaaata tttattgata tctcactcaa tataatagat    480

aaaagtaatc tgactttata tttagatgaa agtaaaactc tctatgataa actctctatt    540

ttaaaaactc ttctcagctt aaccagtttt atccccttt ctctgttcct gacctccttg    600

ctttttttat ttctgtcctt ggtgagacat actagaaatt tgaagctcag ttccttgggc    660

tctagagact ccagcacaga ggcccatagg agggccatga aaatggtgat gtctttcctt    720

ttcctcttca tagttcattt tttttcctta caagtggcca atgggatatt ttttatgttg    780

tggaacaaca agtacataaa gtttgtcatg ttagccttaa atgcctttcc ctcgtgccac    840
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tcatttattc tcattctggg aaacagcaag ctgcgacaga cagctgtgag gctactgtgg 900

catcttagga actatacaaa aacaccaaat gctttacctt tgtag 945

<210> 46
<211> 72
<212> PRT
<213> Homo sapiens

<400> 46
Leu Ser Pro Phe Arg Met Leu Phe Ala Ile Tyr Phe Leu Cys Ile Ile
1 5 10 15

Thr Ser Thr Trp Asn Pro Arg Thr Gln Gln Ser Asn Leu Val Phe Leu
20 25 30

Leu Tyr Gln Thr Leu Ala Ile Met Tyr Pro Ser Phe His Ser Phe Ile
35 40 45

Leu Ile Met Arg Ser Arg Lys Leu Lys Gln Thr Ser Leu Ser Val Leu
50 55 60

Cys Gln Val Thr Cys Trp Val Lys
65 70

<210> 47
<211> 263
<212> PRT
<213> Homo sapiens

<400> 47
Met Pro Pro Gly Ile Gly Asn Thr Phe Leu Ile Val Met Met Gly Glu
1 5 10 15

Phe Ile Ile Met Leu Gly Asn Gly Phe Ile Val Leu Val Asn Cys Ile
20 25 30

Asp Val Arg Ser Gln Met Ile Leu Leu Asp Asn Cys Ile Leu Thr Ser
35 40 45

Leu Ala Ile Ser Thr Ile Ser Gln Leu Trp Ile Ile Leu Leu Asp Ser
50 55 60

Phe Val Thr Ala Leu Trp Pro His Leu Tyr Ala Phe Asn Lys Leu Ile
65 70 75 80

Lys Phe Ile His Ile Phe Trp Ala Leu Thr Asn His Leu Val Thr Trp
85 90 95

Leu Ala Cys Cys Leu Ser Val Phe Tyr Phe Phe Lys Ile Ala Tyr Phe
100 105 110

Ser His Pro Cys Phe Ile Trp Leu Arg Trp Arg Ile Ser Arg Thr Leu
115 120 125

Leu Glu Leu Pro Leu Gly Ser Leu Leu Leu Leu Phe Phe Asn Leu Ala
130 135 140

Leu Thr Gly Gly Leu Ser Asp Leu Trp Ile Asn Ile Tyr Thr Met Tyr
145 150 155 160

Glu Arg Asn Ser Thr Trp Ser Leu Asp Val Ser Lys Ile Leu Tyr Cys
165 170 175

Ser Leu Trp Ile Leu Val Ser Leu Ile Tyr Leu Ile Ser Phe Leu Leu
180 185 190

Ser Leu Ile Ser Leu Leu Leu Leu Ile Leu Ser Leu Met Arg His Ile
195 200 205

Arg Asn Leu Gln Leu Asn Thr Met Gly Pro Arg Asp Leu Arg Met Lys
210 215 220

Ala His Lys Arg Ala Met Lys Met Lys Met Lys Met Met Val Ser Phe
225 230 235 240

Leu Leu Phe Phe Leu Val His Phe Ser Ser Leu Leu Pro Thr Gly Trp
245 250 255

Ile Phe Leu Ile Gln Gln Lys
260

<210> 48
<211> 258
<212> PRT
<213> Homo sapiens

<400> 48
Leu Ala Asn Leu Ile Asp Trp Ala Glu Asn Gln Ile Cys Leu Met Asp
1 5 10 15

Phe Ile Leu Ser Ser Leu Ala Ile Cys Arg Thr Leu Leu Leu Gly Cys
20 25 30

Cys Val Ala Ile Arg Cys Thr Tyr Asn Asp Tyr Pro Asn Ile Asp Ala
35 40 45

Val Asn His Asn Leu Ile Lys Ile Ile Thr Ile Phe Asp Ile Leu Arg
50 55 60

Leu Val Ser Lys Leu Gly Ile Trp Phe Ala Ser Tyr Leu Ser Ile Phe
65 70 75 80

Tyr Leu Leu Lys Val Ala Leu Phe His His Ala Ile Phe Leu Trp Leu
85 90 95

Lys Trp Arg Ile Ser Arg Ala Val Phe Thr Phe Leu Met Ile Phe Leu
100 105 110

Phe Phe Tyr Ile Ser Ile Ile Ser Met Ile Lys Ile Lys Leu Phe Leu
115 120 125

```
Asp Gln Cys Tyr Lys Ile Glu Lys Leu Leu Leu Glu Gly Arg Cys Glu
    130                 135                 140

Ser Pro Pro Ser Cys Pro Asp Ala His Pro Gly Val Val Tyr Ser Leu
145                 150                 155                 160

Tyr His Phe Ser Tyr Leu Met Phe Leu Val Cys Tyr Leu Pro Lys Gly
                165                 170                 175

Lys His Cys Thr Ala Val Val Ile Gly Asp Trp Leu Gln Arg Pro Arg
            180                 185                 190

Thr Glu Ala Tyr Val Arg Ala Met Asn Ile Met Ile Ala Phe Phe Phe
        195                 200                 205

His Leu Leu Tyr Ser Leu Gly Thr Ser Leu Ser Ser Val Ser Tyr Phe
    210                 215                 220

Leu Cys Lys Arg Lys Ile Val Ala Leu Gly Ala Tyr Leu Ser Tyr Pro
225                 230                 235                 240

Leu Ser His Ser Phe Ile Leu Ile Met Glu Asn Asn Lys Val Arg Lys
                245                 250                 255

Ala Leu
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<210> 49
<211> 35
<212> PRT
<213> Homo sapiens

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<400> 49
Asn Ile Cys Val Leu Leu Ile Ile Leu Ser Ile Leu Val Val Ser Ala
1               5                   10                  15

Phe Val Leu Gly Asn Val Ala Asn Gly Phe Ile Ala Leu Ile Asn Val
            20                  25                  30

Asn Asp Trp
        35
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<210> 50
<211> 36
<212> PRT
<213> Homo sapiens

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<400> 50
Met Gln Ala Ala Leu Thr Ala Phe Phe Val Leu Leu Phe Ser Leu Leu
1               5                   10                  15

Ser Leu Leu Gly Ile Ala Ala Asn Gly Phe Ile Val Leu Val Leu Gly
            20                  25                  30

Lys Glu Trp Leu
        35
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<210> 51
<211> 319
<212> PRT
<213> Homo sapiens

<400> 51

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Met Ile Thr Phe Leu Pro Ile Ile Phe Ser Ile Leu Val Val Val Thr
1               5                  10                  15

Phe Val Leu Gly Asn Phe Ser Asn Gly Phe Ile Ala Leu Val Asn Ser
            20                  25                  30

Ile Glu Trp Val Lys Thr Arg Lys Ile Ser Ser Ala Asp Gln Ile Leu
        35                  40                  45

Thr Ala Leu Val Val Ser Arg Val Gly Leu Leu Trp Val Ile Leu Leu
    50                  55                  60

His Trp Tyr Ala Asn Val Phe Asn Ser Ala Leu Tyr Ser Ser Glu Val
65                  70                  75                  80

Gly Ala Val Ala Ser Asn Ile Ser Ala Ile Ile Asn His Phe Ser Ile
                85                  90                  95

Trp Leu Ala Thr Ser Leu Ser Ile Phe Tyr Leu Leu Lys Ile Ala Asn
            100                 105                 110

Phe Ser Asn Leu Ile Phe Leu His Leu Lys Lys Arg Ile Arg Ser Val
        115                 120                 125

Val Leu Val Ile Leu Leu Gly Pro Leu Val Phe Leu Ile Cys Asn Leu
    130                 135                 140

Ala Val Ile Thr Met Asp Asp Ser Val Trp Thr Lys Glu Tyr Glu Gly
145                 150                 155                 160

Asn Val Thr Trp Lys Ile Lys Leu Arg Asn Ala Ile His Leu Ser Asn
                165                 170                 175

Met Thr Val Ser Thr Leu Ala Asn Leu Ile Pro Phe Ile Leu Thr Leu
            180                 185                 190

Ile Cys Phe Leu Leu Leu Ile Cys Ser Leu Cys Lys His Leu Lys Lys
        195                 200                 205

Met Gln Leu His Gly Lys Gly Ser Gln Asp Pro Ser Thr Lys Val His
    210                 215                 220

Ile Lys Ala Leu Gln Thr Val Thr Ser Phe Leu Leu Leu Cys Ala Ile
225                 230                 235                 240

Tyr Phe Leu Ser Met Ile Ile Ser Val Cys Asn Phe Gly Arg Leu Glu
                245                 250                 255

Lys Gln Pro Val Phe Met Phe Cys Gln Ala Ile Ile Phe Ser Tyr Pro
            260                 265                 270
```

```
Ser Thr His Pro Phe Ile Leu Ile Leu Gly Asn Lys Lys Leu Lys Gln
        275                 280                 285

Ile Phe Leu Ser Val Leu Arg His Val Arg Tyr Trp Val Lys Asp Arg
    290                 295                 300

Ser Leu Arg Leu His Arg Phe Thr Arg Gly Ala Leu Cys Val Phe
305                 310                 315
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<210> 52
<211> 960
<212> DNA
<213> Homo sapiens

<400> 52

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aatttttcca atggcttcat agctctagta aattccattg agtgggtcaa gacacgaaag    120

atctcctcag ctgaccaaat cctcactgct ctggtggtct ccagagttgg tttactctgg    180

gtcatattat tacattggta tgcaaatgtg tttaattcag ctttatatag ttcagaagta    240

ggagctgttg cttctaatat ctcagcaata atcaaccatt tcagcatctg gcttgctact    300

agcctcagca tattttattt gctcaagatt gccaatttct ccaaccttat ttttctccac    360

ttaaagaaga gaattaggag tgttgttctg gtgatactgt tgggtccctt ggtatttttg    420

atttgtaatc ttgctgtgat aaccatggat gacagtgtgt ggacaaaaga atatgaagga    480

aatgtgactt ggaagatcaa attgaggaat gcaatacacc tttcaaatat gactgtaagc    540

acactagcaa acctcatacc cttcattctg accctaatat gttttctgct gttaatctgt    600

tctctgtgta aacatctcaa gaagatgcag ctccatggca aaggatctca agatcccagc    660

accaaggtcc acataaaagc tttgcaaact gtgacctcct ttcttctgtt atgtgccatt    720

tactttctgt ccatgatcat atcagtttgt aattttggga ggctggaaaa gcaacctgtc    780

ttcatgttct gccaagctat tatattcagc tatccttcaa cccacccatt catcctgatt    840

ttgggaaaca agaagctaaa gcagattttt ctttcagttt tgcggcatgt gaggtactgg    900

gtgaaagaca gaagccttcg tctccataga ttcacaagag gggcattgtg tgtcttctag    960
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<210> 53
<211> 299
<212> PRT
<213> Homo sapiens

<220>
<221> MOD_RES
<222> (176)..(176)
<223> Variable amino acid

<220>
<221> MOD_RES
<222> (184)..(184)
<223> Variable amino acid

<400> 53

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Met Thr Thr Phe Ile Pro Ile Ile Phe Ser Ser Val Val Val Val Leu
1               5                  10                  15

Phe Val Ile Gly Asn Phe Ala Asn Gly Phe Ile Ala Leu Val Asn Ser
            20                  25                  30

Ile Glu Arg Val Lys Arg Gln Lys Ile Ser Phe Ala Asp Gln Ile Leu
        35                  40                  45

Thr Ala Leu Ala Val Ser Arg Val Gly Leu Leu Trp Val Leu Leu Leu
    50                  55                  60

Asn Trp Tyr Ser Thr Val Phe Asn Pro Ala Phe Tyr Ser Val Glu Val
65                  70                  75                  80

Arg Thr Thr Ala Tyr Asn Val Trp Ala Val Thr Gly His Phe Ser Asn
                85                  90                  95

Trp Leu Ala Thr Ser Leu Ser Ile Phe Tyr Leu Leu Lys Ile Ala Asn
            100                 105                 110

Phe Ser Asn Leu Ile Phe Leu His Leu Lys Arg Arg Val Lys Ser Val
        115                 120                 125

Ile Leu Val Met Leu Leu Gly Pro Leu Leu Phe Leu Ala Cys Gln Leu
    130                 135                 140

Phe Val Ile Asn Met Lys Glu Ile Val Arg Thr Lys Glu Phe Glu Gly
145                 150                 155                 160

Asn Met Thr Trp Lys Ile Lys Leu Lys Ser Ala Met Tyr Phe Ser Xaa
                165                 170                 175

Met Thr Val Thr Ile Gly Ala Xaa Leu Val Pro Phe Thr Leu Ser Leu
            180                 185                 190

Ile Ser Phe Leu Met Leu Ile Cys Ser Leu Cys Lys His Leu Lys Lys
        195                 200                 205

Met Gln Leu His Gly Glu Gly Ser Gln Asp Leu Ser Thr Lys Val His
    210                 215                 220

Ile Lys Ala Leu Gln Thr Leu Ile Ser Phe Leu Leu Leu Cys Ala Ile
225                 230                 235                 240

Phe Phe Leu Phe Leu Ile Val Ser Val Trp Ser Pro Arg Arg Leu Arg
                245                 250                 255

Asn Asp Pro Val Val Met Val Ser Lys Ala Val Gly Asn Ile Tyr Leu
            260                 265                 270
```

Ala Phe Asp Ser Phe Ile Leu Ile Trp Arg Thr Lys Lys Leu Lys His
275 280 285

Thr Phe Leu Leu Ile Leu Cys Gln Ile Arg Cys
290 295

<210> 54
<211> 900
<212> DNA
<213> Homo sapiens

<220>
<221> modified_base
<222> (526)..(526)
<223> n is a, c, g, or t

<220>
<221> modified_base
<222> (550)..(550)
<223> n is a, c, g, or t

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aattttgcta atggcttcat agcattggta aattccattg agcgggtcaa gagacaaaag 120

atctcttttg ctgaccagat tctcactgct ctggcggtct ccagagttgg tttgctctgg 180

gtattattat taaattggta ttcaactgtg tttaatccag ctttttatag tgtagaagta 240

agaactactg cttataatgt ctgggcagta accggccatt tcagcaactg gcttgctact 300

agcctcagca tattttattt gctcaagatt gccaatttct ccaaccttat ttttcttcac 360

ttaaagagga gagttaagag tgtcattctg gtgatgctgt tggggccttt actatttttg 420

gcttgtcaac tttttgtgat aaacatgaaa gagattgtac ggacaaaaga atttgaagga 480

aacatgactt ggaagatcaa attgaagagt gcaatgtact tttcanatat gactgtaacc 540

attggagcan acttagtacc ctttactctg tccctgatat cttttctgat gctaatctgt 600

tctctgtgta aacatctcaa gaagatgcag ctccatggag aaggatcgca agatctcagc 660

accaaggtcc acataaaagc tttgcaaact ctgatctcct tcctcttgtt atgtgccatt 720

ttctttctat tcctaatcgt ttcggtttgg agtcctagga ggctgcggaa tgacccggtt 780

gtcatggtta gcaaggctgt tggaaacata tatcttgcat tcgactcatt catcctaatt 840

tggagaacca agaagctaaa acacaccttt cttttgattt tgtgtcagat taggtgctga 900

<210> 55
<211> 20
<212> PRT
<213> Homo sapiens

<400> 55
His Ser Phe Met Leu Thr Met Gly Ser Arg Lys Pro Lys Gln Thr Phe
1 5 10 15

Leu Ser Ala Leu
20

<210> 56
<211> 309
<212> PRT
<213> Homo sapiens

<400> 56
Met Val Tyr Phe Leu Pro Ile Ile Phe Ser Ile Leu Val Val Phe Ala
1 5 10 15

Phe Val Leu Gly Asn Phe Ser Asn Gly Phe Ile Ala Leu Val Asn Val
20 25 30

Ile Asp Trp Val Lys Arg Gln Lys Ile Ser Ser Ala Asp Gln Ile Leu
35 40 45

Thr Ala Leu Val Val Ser Arg Val Gly Leu Leu Trp Val Ile Leu Leu
50 55 60

His Trp Tyr Ala Asn Val Phe Asn Ser Ala Leu Tyr Ser Leu Glu Val
65 70 75 80

Arg Ile Val Ala Ser Asn Ile Ser Ala Val Ile Asn His Phe Ser Ile
85 90 95

Trp Leu Ala Ala Ser Leu Ser Ile Phe Tyr Leu Leu Lys Ile Ala Asn
100 105 110

Phe Ser Asn Leu Ile Phe Leu His Leu Lys Lys Arg Ile Lys Ser Val
115 120 125

Val Leu Val Ile Leu Leu Gly Pro Leu Val Phe Leu Ile Cys Asn Leu
130 135 140

Ala Val Ile Thr Met Asp Glu Arg Val Trp Thr Lys Glu Tyr Glu Gly
145 150 155 160

Asn Val Thr Trp Lys Ile Lys Leu Arg Asn Ala Ile His Leu Ser Ser
165 170 175

Leu Thr Val Thr Thr Leu Ala Asn Leu Ile Pro Phe Thr Leu Ser Leu
180 185 190

Ile Cys Phe Leu Leu Leu Ile Cys Ser Leu Cys Lys His Leu Lys Lys
195 200 205

Met Gln Leu His Ser Lys Gly Ser Gln Asp Pro Ser Thr Lys Val His
210 215 220

```
Ile Lys Ala Leu Gln Thr Val Ile Ser Phe Leu Met Leu Cys Ala Ile
225                 230                 235                 240

Tyr Phe Leu Ser Ile Met Ile Ser Val Met Asn Leu Arg Ser Leu Glu
                245                 250                 255

Asn Lys Pro Val Phe Met Phe Cys Lys Ala Ile Arg Phe Ser Tyr Pro
            260                 265                 270

Ser Ile His Pro Phe Ile Leu Ile Trp Gly Asn Lys Lys Leu Lys Gln
        275                 280                 285

Thr Phe Leu Ser Val Phe Trp Gln Val Arg Tyr Trp Val Lys Gly Glu
    290                 295                 300

Lys Pro Ser Ser Pro
305
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<210> 57
<211> 930
<212> DNA
<213> Homo sapiens

<400> 57

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atctcctcag ctgaccaaat tctcactgct ctggtggtct ccagagttgg tttactctgg    180

gtcatattat tacattggta tgcaaatgtg tttaattcag ctttatatag tttagaagta    240

agaattgttg cttctaatat ctcagcagta atcaaccatt tcagcatctg gcttgctgct    300

agcctcagca tattttattt gctcaagatt gccaatttct ccaaccttat ttttctccac    360

ctaaagaaga gaattaagag tgttgttctg gtgatactgt tggggccctt ggtatttctg    420

atttgtaatc ttgctgtgat aaccatggat gagagagtgt ggacaaaaga atatgaagga    480

aatgtgactt ggaagatcaa attgaggaat gcaatacacc tttcaagctt gactgtaact    540

actctagcaa acctcatacc ctttactctg agcctaatat gttttctgct gttaatctgt    600

tctctttgta aacatctcaa gaagatgcag ctccatagca aaggatctca agatcccagc    660

accaaggtcc acataaaagc tttgcaaact gtgatctcct tcctcatgtt atgtgccatt    720

tactttctgt ccataatgat atcagtttgg aatcttagga gtctggaaaa caaacctgtc    780

ttcatgttct gcaaagctat tagattcagc tatccttcaa tccacccatt catcctgatt    840

tggggaaaca agaagctaaa gcagactttt ctttcagttt tttggcaagt gaggtactgg    900

gtgaaaggag agaagccttc atctccatag                                     930
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<210> 58
<211> 100
<212> PRT
<213> Homo sapiens

<220>
<221> MOD_RES
<222> (5)..(5)
<223> Variable amino acid

<220>
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<222> (34)..(34)
<223> Variable amino acid

<220>
<221> MOD_RES
<222> (71)..(71)
<223> Variable amino acid

<220>
<221> MOD_RES
<222> (85)..(85)
<223> Variable amino acid

<400> 58
Gly Ser Ser Arg Xaa Lys Pro Pro Arg Ile Pro His Lys Lys Leu Cys
1 5 10 15

Lys Leu Gly Pro Ser Phe Pro His Asn Asn Leu Pro Ile Tyr Phe Leu
20 25 30

Cys Xaa Asn His Ile Val Leu Glu Phe Leu Lys Met Arg Pro Lys Lys
35 40 45

Lys Cys Ser Leu Met Leu Cys Gln Ala Phe Gly Ile Ile Tyr Pro Ser
50 55 60

Phe His Ser Phe Ile Leu Xaa Trp Gly Asn Lys Thr Leu Lys Gln Thr
65 70 75 80

Phe Leu Ser Val Xaa Trp Gln Val Thr Cys Trp Ala Lys Gly Gln Asn
85 90 95

Gln Ser Thr Pro
100

<210> 59
<211> 128
<212> PRT
<213> Homo sapiens

<220>
<221> MOD_RES
<222> (62)..(62)
<223> Variable amino acid

<220>
<221> MOD_RES
<222> (72)..(72)
<223> Variable amino acid

<400> 59
Asn Ala Ile Arg Pro Ser Lys Leu Trp Thr Val Thr Glu Ala Asp Lys
1 5 10 15

Thr Ser Gln Pro Gly Thr Ser Ala Asn Lys Ile Phe Ser Ala Gly Asn
20 25 30

Leu Ile Ser His Val Asn Met Ser Arg Arg Met Gln Leu His Gly Lys
35 40 45

Gly Ser Gln His Leu Ser Thr Arg Val His Ile Lys Ala Xaa Gln Thr
50 55 60

Val Ile Ser Phe Leu Met Leu Xaa Ala Ile Tyr Phe Leu Cys Leu Ile
65 70 75 80

Thr Ser Thr Trp Asn Pro Arg Thr Gln Gln Ser Lys Leu Val Phe Leu
85 90 95

Leu Tyr Gln Thr Leu Gly Phe Met Tyr Leu Leu Phe His Ser Phe Ile
100 105 110

Leu Thr Met Gly Ser Arg Lys Pro Lys Gln Thr Phe Leu Ser Ala Leu
115 120 125

<210> 60
<211> 309
<212> PRT
<213> Homo sapiens

<400> 60
Met Ile Cys Phe Leu Leu Ile Ile Leu Ser Ile Leu Val Val Phe Ala
1 5 10 15

Phe Val Leu Gly Asn Phe Ser Asn Gly Phe Ile Ala Leu Val Asn Val
20 25 30

Ile Asp Trp Val Lys Arg Gln Lys Ile Ser Ser Ala Asp Gln Ile Leu
35 40 45

Thr Ala Leu Val Val Ser Arg Val Gly Leu Leu Trp Val Ile Leu Leu
50 55 60

His Trp Tyr Ser Asn Val Leu Asn Ser Ala Leu Tyr Ser Ser Glu Val
65 70 75 80

Ile Ile Phe Ile Ser Asn Ala Trp Ala Ile Ile Asn His Phe Ser Ile
85 90 95

Trp Leu Ala Thr Ser Leu Ser Ile Phe Tyr Leu Leu Lys Ile Val Asn
100 105 110

```
Phe Ser Arg Leu Ile Phe His His Leu Lys Arg Lys Ala Lys Ser Val
        115                 120                 125

Val Leu Val Ile Val Leu Gly Pro Leu Val Phe Leu Val Cys His Leu
    130                 135                 140

Val Met Lys His Thr Tyr Ile Asn Val Trp Thr Lys Glu Tyr Glu Gly
145                 150                 155                 160

Asn Val Thr Trp Lys Ile Lys Leu Arg Asn Ala Ile His Leu Ser Asn
                165                 170                 175

Leu Thr Val Ser Thr Leu Ala Asn Leu Ile Pro Phe Thr Leu Thr Leu
            180                 185                 190

Ile Ser Phe Leu Leu Leu Ile Tyr Ser Leu Cys Lys His Leu Lys Lys
        195                 200                 205

Met Gln Leu His Gly Lys Gly Ser Gln Asp Pro Ser Thr Lys Val His
    210                 215                 220

Ile Lys Ala Leu Gln Thr Val Thr Ser Phe Leu Leu Leu Cys Ala Ile
225                 230                 235                 240

Tyr Phe Leu Ser Met Ile Ile Ser Val Cys Asn Phe Gly Arg Leu Glu
                245                 250                 255

Lys Gln Pro Val Phe Met Phe Cys Gln Ala Ile Ile Phe Ser Tyr Pro
            260                 265                 270

Ser Thr His Pro Phe Ile Leu Ile Leu Gly Asn Lys Lys Leu Lys Gln
        275                 280                 285

Ile Phe Leu Ser Val Phe Trp Gln Met Arg Tyr Trp Val Lys Gly Glu
    290                 295                 300

Lys Pro Ser Ser Pro
305
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<210> 61
<211> 930
<212> DNA
<213> Homo sapiens

<400> 61

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aatttttcca atggcttcat agctctagta aatgtcattg actgggtcaa gagacaaaag    120

atctcctcag ctgaccaaat cctcactgct ctggtggtct ccagagttgg tttactctgg    180

gtaatattat tacattggta ttcaaatgtg ttgaattcag ctttatatag ttcagaagta    240

ataattttta tttctaatgc ctgggcaata atcaaccatt tcagcatctg gcttgctact    300

agcctcagca tattttattt gctcaagatc gtcaatttct ccagacttat ttttcatcac    360
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ttaaaaagga aggctaagag tgtagttctg gtgatagtgt tgggtccctt ggtatttttg 420

gtttgtcacc ttgtgatgaa acacacgtat ataaatgtgt ggacaaaaga atatgaagga 480

aatgtgactt ggaagatcaa actgaggaat gcaatacacc tttcaaactt gactgtaagc 540

acactagcaa acttgatacc cttcactctg accctgatat cttttctgct gttaatctac 600

tctctgtgta aacatctcaa gaagatgcag ctccatggca aaggatctca agatcccagc 660

accaaggtcc acataaaagc tttgcaaact gtgacctcct ttcttctgtt atgtgccatt 720

tactttctgt ccatgatcat atcagtttgt aattttggga ggctggaaaa gcaacctgtc 780

ttcatgttct gccaagctat tatattcagc tatccttcaa cccacccatt catcctgatt 840

ttgggaaaca agaagctaaa gcagattttt ctttcagttt tttggcaaat gaggtactgg 900

gtgaaaggag agaagccttc atctccatag 930

<210> 62
<211> 306
<212> PRT
<213> Homo sapiens

<400> 62

Met	Ile	Thr	Phe	Leu	Pro	Ile	Ile	Phe	Ser	Ile	Leu	Ile	Val	Val	Thr
1				5				10					15		
Phe	Val	Ile	Gly	Asn	Phe	Ala	Asn	Gly	Phe	Ile	Ala	Leu	Val	Asn	Ser
			20					25					30		
Ile	Glu	Trp	Val	Lys	Arg	Gln	Lys	Ile	Ser	Ser	Ala	Asp	Gln	Ile	Ser
		35					40					45			
His	Cys	Ser	Gly	Gly	Val	Gln	Asn	Trp	Phe	Thr	Leu	Gly	His	Ile	Ile
	50					55					60				
Thr	Leu	Val	Cys	Asn	Cys	Val	Phe	Gly	Phe	Ile	Ile	Arg	Ser	Lys	Asn
65					70					75					80
Phe	Trp	Phe	Cys	Leu	Ser	Asn	Asn	Gln	Ala	Phe	Gln	His	Val	Gly	Val
				85					90					95	
Thr	Ser	Leu	Ser	Ile	Phe	His	Leu	Leu	Lys	Thr	Ala	Asn	Phe	Ser	Asn
			100					105					110		
Leu	Ile	Phe	Leu	His	Leu	Lys	Lys	Arg	Ile	Lys	Ser	Val	Gly	Leu	Val
		115					120					125			
Ile	Leu	Leu	Gly	Pro	Leu	Leu	Phe	Phe	Ile	Cys	Asn	Leu	Phe	Val	Ile
	130					135					140				
Asn	Met	Asp	Glu	Ser	Val	Trp	Thr	Lys	Glu	Tyr	Glu	Gly	Asn	Val	Thr
145					150					155					160

```
Trp Lys Ile Lys Leu Arg Ser Ala Met Tyr His Ser Asn Met Thr Leu
                165                 170                 175

Thr Met Leu Ala Asn Phe Val Pro Phe Thr Leu Thr Leu Ile Ser Phe
            180                 185                 190

Leu Leu Leu Ile Cys Ser Leu Cys Lys His Leu Lys Lys Met Gln Leu
        195                 200                 205

His Gly Lys Gly Ser Gln Asp Pro Ser Thr Lys Val His Ile Lys Ala
    210                 215                 220

Leu Gln Thr Val Thr Ser Phe Leu Leu Leu Cys Ala Ile Tyr Phe Leu
225                 230                 235                 240

Ser Met Ile Ile Ser Val Cys Asn Leu Gly Arg Leu Glu Lys Gln Pro
                245                 250                 255

Val Phe Met Phe Cys Glu Ala Ile Ile Phe Ser Tyr Pro Ser Thr His
            260                 265                 270

Pro Phe Ile Leu Ile Leu Gly Asn Lys Lys Leu Lys Gln Ile Phe Leu
        275                 280                 285

Ser Val Leu Arg His Val Arg Tyr Trp Val Lys Gly Glu Lys Pro Ser
    290                 295                 300

Ser Ser
305
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<210> 63
<211> 930
<212> DNA
<213> Homo sapiens

<400> 63

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aattttgcta atggcttcat agctctagta aattccattg agtgggttaa gagacaaaag    120

atctcatcag ctgaccaaat ttctcactgc tctggtggtg tccagaattg gtttactctg    180

ggtcatatta ttacattggt atgcaactgt gtttaatttg gcttcatata gattagaagt    240

aagaattttt ggttctaatg tctcagcaat aaccaagcat ttcagcatgt gggtgttact    300

agcctcagca tatttcattt gctcaagact gccaatttct ccaaccttat ttttctccac    360

ctaaagaaga ggattaagag tgttggtttg gtgatactat tggggccttt gctatttttc    420

atttgtaatc tttttgtgat aaacatggat gagagtgtat ggacaaaaga atatgaagga    480

aacgtgactt ggaagatcaa attgaggagt gcaatgtacc attcaaatat gactctaacc    540

atgctagcaa actttgtacc cttcactctg accctgatat cttttctgct gttaatctgt    600

tctctgtgta aacatctcaa gaagatgcag ctccatggca aaggatctca agatcccagc    660
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accaaggtcc acataaaagc tttgcaaact gtgacctcct ttcttctgtt atgtgccatt 720

tactttctgt ccatgatcat atcagtttgt aatttgggga ggctggaaaa gcaacctgtc 780

ttcatgttct gcgaagctat tatattcagc tatccttcaa cccacccatt catcctgatt 840

ttgggaaaca agaagctaaa gcagattttt ctttcagttt tgcggcatgt gaggtactgg 900

gtgaaaggag agaagccttc atcttcatag 930

<210> 64
<211> 144
<212> PRT
<213> Homo sapiens

<400> 64
Met Leu Thr Leu Thr Arg Ile Arg Thr Val Ser Tyr Glu Val Arg Ser
1 5 10 15

Thr Phe Leu Phe Ile Ser Val Leu Glu Phe Ala Val Gly Phe Leu Thr
20 25 30

Asn Ala Phe Val Phe Leu Val Asn Phe Trp Asp Val Val Lys Arg Gln
35 40 45

Pro Leu Ser Asn Ser Asp Cys Val Leu Leu Cys Leu Ser Ile Ser Arg
50 55 60

Leu Phe Leu His Gly Leu Leu Phe Leu Ser Ala Ile Gln Leu Thr His
65 70 75 80

Phe Gln Lys Leu Ser Glu Pro Leu Asn His Ser Tyr Gln Ala Ile Ile
85 90 95

Met Leu Trp Met Ile Ala Asn Gln Ala Asn Leu Trp Leu Ala Ala Cys
100 105 110

Leu Ser Leu Leu Tyr Cys Ser Lys Leu Ile Arg Phe Ser His Thr Phe
115 120 125

Leu Ile Cys Leu Ala Ser Trp Ser Pro Gly Arg Ser Pro Val Pro Ser
130 135 140

<210> 65
<211> 140
<212> PRT
<213> Homo sapiens

<400> 65
Leu Arg Asn Ala Gly Leu Asn Asp Ser Asn Ala Lys Leu Val Arg Asn
1 5 10 15

Asn Asp Leu Leu Leu Ile Asn Leu Ile Leu Leu Leu Pro Leu Ser Val
20 25 30

```
Phe Val Met Cys Thr Ser Met Leu Phe Val Ser Leu Tyr Lys His Met
        35                  40                  45

His Trp Met Gln Ser Glu Ser His Lys Leu Ser Ser Ala Arg Thr Glu
    50                  55                  60

Ala His Ile Asn Ala Leu Lys Thr Val Thr Thr Phe Phe Cys Phe Phe
65                  70                  75                  80

Val Ser Tyr Phe Ala Ala Phe Met Ala Asn Met Thr Phe Arg Ile Pro
                85                  90                  95

Tyr Arg Ser His Gln Phe Phe Val Val Lys Glu Ile Met Ala Ala Tyr
            100                 105                 110

Pro Ala Gly His Ser Val Ile Ile Val Leu Ser Asn Ser Lys Phe Lys
        115                 120                 125

Asp Leu Phe Arg Arg Met Ile Cys Leu Gln Lys Glu
    130                 135                 140
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<210> 66
<211> 71
<212> PRT
<213> Homo sapiens

<400> 66

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Ser Gln Tyr Ser Leu Gly His Ser Tyr Val Val Ile Phe Gly Tyr Gly
1               5                   10                  15

Gln Met Lys Lys Thr Phe Leu Gly Ile Leu Trp His Leu Lys Cys Gly
            20                  25                  30

Leu Lys Gly Arg Ala Leu Leu Ala Thr Gln Val Gly Leu Arg Glu Lys
        35                  40                  45

Ser Thr Arg Ser Leu Gly Val Ile Phe Leu Ala Ser Ser Tyr Ser Phe
    50                  55                  60

Phe Val Tyr Val Leu Cys His
65                  70
```

<210> 67
<211> 308
<212> PRT
<213> Homo sapiens

<400> 67

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Met Ile Thr Phe Leu Leu Ile Ile Leu Ser Ile Leu Val Val Phe Ala
1               5                   10                  15

Phe Val Leu Gly Asn Phe Ser Asn Gly Phe Ile Ala Leu Val Asn Val
            20                  25                  30

Ile Asp Trp Val Asn Thr Arg Lys Ile Ser Ser Ala Asp Gln Ile Leu
        35                  40                  45
```

```
Thr Ala Leu Ala Val Ser Arg Val Gly Leu Leu Trp Val Ile Leu Leu
    50                  55                  60

His Trp Tyr Ala Asn Val Leu Asn Pro Ala Leu Tyr Ser Ser Glu Val
65                  70                  75                  80

Ile Ile Phe Ile Ser Asn Ile Ser Ala Ile Ile Asn His Phe Ser Ile
                85                  90                  95

Trp Leu Ala Thr Ser Leu Ser Ile Phe Tyr Leu Leu Lys Ile Val Asn
            100                 105                 110

Phe Ser Arg Leu Ile Phe His His Leu Lys Arg Lys Ala Lys Ser Val
        115                 120                 125

Val Leu Val Ile Val Leu Gly Pro Leu Val Phe Leu Val Cys His Leu
    130                 135                 140

Val Met Lys His Thr Tyr Ile Asn Val Trp Thr Lys Glu Tyr Glu Gly
145                 150                 155                 160

Asn Val Thr Trp Lys Ile Lys Leu Arg Asn Ala Ile His Leu Ser Asn
                165                 170                 175

Leu Thr Val Ser Thr Leu Ala Asn Leu Ile Pro Phe Thr Leu Thr Leu
            180                 185                 190

Ile Ser Phe Leu Leu Leu Ile Cys Ser Leu Cys Lys His Leu Lys Lys
        195                 200                 205

Met Gln Leu His Ser Lys Gly Ser Gln Asp Pro Ser Thr Lys Val His
    210                 215                 220

Ile Lys Ala Leu Gln Thr Val Thr Ser Phe Leu Met Leu Phe Ala Ile
225                 230                 235                 240

Tyr Phe Leu Tyr Leu Ile Thr Ser Thr Trp Asn Leu Thr Gln Gln Ser
                245                 250                 255

Lys Leu Val Phe Met Phe Cys Gln Thr Leu Gly Ile Met Tyr Pro Ser
            260                 265                 270

Phe His Ser Phe Ile Leu Ile Met Gly Ser Arg Lys Leu Lys Gln Thr
        275                 280                 285

Phe Leu Ser Val Leu Cys Gln Val Thr Cys Leu Val Lys Gly Gln Gln
    290                 295                 300

Pro Ser Thr Pro
305
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<210> 68
<211> 34
<212> PRT
<213> Homo sapiens

<400> 68
Phe Ile Gly Leu Thr Asp Cys Ile Ala Trp Met Arg Asn Gln Lys Leu
1 5 10 15

Cys Met Val Gly Phe Ile Leu Thr Arg Met Ala Leu Ala Arg Ile Asn
20 25 30

Ile Leu

<210> 69
<211> 293
<212> PRT
<213> Homo sapiens

<220>
<221> MOD_RES
<222> (75)..(97)
<223> Variable amino acid

<400> 69
Leu Glu Leu Ile Phe Ser Lys Val Val Ala Thr Arg Gly Leu Val Leu
1 5 10 15

Gly Met Leu Gly Asn Gly Leu Ile Gly Leu Val Asn Cys Ile Glu Trp
20 25 30

Ala Lys Ser Trp Lys Val Ser Ser Ala Asp Phe Ile Leu Thr Ser Leu
35 40 45

Ala Ile Val Arg Ile Ile Arg Leu Tyr Leu Ile Leu Phe Asp Ser Phe
50 55 60

Ile Met Val Leu Ser Pro His Leu Tyr Thr Xaa Xaa Xaa Xaa Xaa Xaa
65 70 75 80

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
85 90 95

Xaa Ser Leu Ser Ile Phe His Trp Phe Lys Thr Ala Asn Phe Ser Asn
100 105 110

Leu Ile Phe Leu Pro Leu Lys Glu Glu Asp Asn Val Trp Leu Gly Asp
115 120 125

Ala Val Gly Ala Leu Gly Ile Phe His Leu Ser Cys Ser Glu Asn His
130 135 140

Gly Glu Val Cys Gly Gln Lys Asn Met Lys Glu Phe Cys Ser Gly Met
145 150 155 160

Ile Lys Leu Arg Asn Ala Ile Gln Leu Ser Asn Leu Thr Val Thr Met
165 170 175

Pro Ala Asn Val Thr Pro Cys Thr Leu Thr Leu Ile Ser Phe Leu Leu
180 185 190

```
Leu Ile Tyr Ser Pro Cys Lys His Val Lys Lys Met Gln Leu His Gly
        195                 200                 205

Lys Gly Ser Gln His Leu Ser Thr Lys Val His Ile Lys Val Leu Gln
    210                 215                 220

Thr Val Ile Ser Phe Phe Leu Leu Cys Ala Ile Tyr Phe Val Ser Val
225                 230                 235                 240

Ile Ile Ser Val Trp Ser Phe Lys Asn Leu Glu Asn Lys Pro Val Phe
                245                 250                 255

Met Phe Cys Gln Ala Ile Gly Phe Ser Cys Ser Ser Ala His Pro Phe
            260                 265                 270

Ile Leu Thr Met Gly Asn Lys Lys Leu Lys Gln Thr Tyr Leu Ser Val
        275                 280                 285

Leu Trp Gln Met Arg
    290
```

<210> 70
<211> 319
<212> PRT
<213> Homo sapiens

<400> 70

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Met Ile Thr Phe Leu Pro Ile Ile Phe Ser Ile Leu Ile Val Val Ile
1               5                   10                  15

Phe Val Ile Gly Asn Phe Ala Asn Gly Phe Ile Ala Leu Val Asn Ser
            20                  25                  30

Ile Glu Trp Val Lys Arg Gln Lys Ile Ser Phe Val Asp Gln Ile Leu
        35                  40                  45

Thr Ala Leu Ala Val Ser Arg Val Gly Leu Leu Trp Val Leu Leu Leu
    50                  55                  60

His Trp Tyr Ala Thr Gln Leu Asn Pro Ala Phe Tyr Ser Val Glu Val
65                  70                  75                  80

Arg Ile Thr Ala Tyr Asn Val Trp Ala Val Thr Asn His Phe Ser Ser
                85                  90                  95

Trp Leu Ala Thr Ser Leu Ser Met Phe Tyr Leu Leu Arg Ile Ala Asn
            100                 105                 110

Phe Ser Asn Leu Ile Phe Leu Arg Ile Lys Arg Arg Val Lys Ser Val
        115                 120                 125

Val Leu Val Ile Leu Leu Gly Pro Leu Leu Phe Leu Val Cys His Leu
    130                 135                 140

Phe Val Ile Asn Met Asp Glu Thr Val Trp Thr Lys Glu Tyr Glu Gly
145                 150                 155                 160
```

```
Asn Val Thr Trp Lys Ile Lys Leu Arg Ser Ala Met Tyr His Ser Asn
                165                 170                 175

Met Thr Leu Thr Met Leu Ala Asn Phe Val Pro Leu Thr Leu Thr Leu
            180                 185                 190

Ile Ser Phe Leu Leu Leu Ile Cys Ser Leu Cys Lys His Leu Lys Lys
        195                 200                 205

Met Gln Leu His Gly Lys Gly Ser Gln Asp Pro Ser Thr Lys Val His
    210                 215                 220

Ile Lys Ala Leu Gln Thr Val Thr Ser Phe Leu Leu Leu Cys Ala Ile
225                 230                 235                 240

Tyr Phe Leu Ser Met Ile Ile Ser Val Cys Asn Leu Gly Arg Leu Glu
                245                 250                 255

Lys Gln Pro Val Phe Met Phe Cys Gln Ala Ile Ile Phe Ser Tyr Pro
            260                 265                 270

Ser Thr His Pro Phe Ile Leu Ile Leu Gly Asn Lys Lys Leu Lys Gln
        275                 280                 285

Ile Phe Leu Ser Val Leu Arg His Val Arg Tyr Trp Val Lys Asp Arg
    290                 295                 300

Ser Leu Arg Leu His Arg Phe Thr Arg Gly Ala Leu Cys Val Phe
305                 310                 315
```

<210> 71
<211> 314
<212> PRT
<213> Homo sapiens

<400> 71

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Met Ala Thr Glu Leu Asp Lys Ile Phe Leu Ile Leu Ala Ile Ala Glu
1               5                   10                  15

Phe Ile Ile Ser Met Leu Gly Asn Val Phe Ile Gly Leu Val Asn Cys
            20                  25                  30

Ser Glu Gly Ile Lys Asn Gln Lys Val Phe Ser Ala Asp Phe Ile Leu
        35                  40                  45

Thr Cys Leu Ala Ile Ser Thr Ile Gly Gln Leu Leu Val Ile Leu Phe
    50                  55                  60

Asp Ser Phe Leu Val Gly Leu Ala Ser His Leu Tyr Thr Thr Tyr Arg
65                  70                  75                  80

Leu Gly Lys Thr Val Ile Met Leu Trp His Met Thr Asn His Leu Thr
                85                  90                  95

Thr Trp Leu Ala Thr Cys Leu Ser Ile Phe Tyr Phe Phe Lys Ile Ala
            100                 105                 110
```

```
His Phe Pro His Ser Leu Phe Leu Trp Leu Arg Trp Arg Met Asn Gly
        115                 120                 125

Met Ile Val Met Leu Leu Ile Leu Ser Leu Phe Leu Leu Ile Phe Asp
    130                 135                 140

Ser Leu Val Leu Glu Ile Phe Ile Asp Ile Ser Leu Asn Ile Ile Asp
145                 150                 155                 160

Lys Ser Asn Leu Thr Leu Tyr Leu Asp Glu Ser Lys Thr Leu Tyr Asp
                165                 170                 175

Lys Leu Ser Ile Leu Lys Thr Leu Leu Ser Leu Thr Ser Phe Ile Pro
            180                 185                 190

Phe Ser Leu Phe Leu Thr Ser Leu Leu Phe Leu Phe Leu Ser Leu Val
        195                 200                 205

Arg His Thr Arg Asn Leu Lys Leu Ser Ser Leu Gly Ser Arg Asp Ser
    210                 215                 220

Ser Thr Glu Ala His Arg Arg Ala Met Lys Met Val Met Ser Phe Leu
225                 230                 235                 240

Phe Leu Phe Ile Val His Phe Phe Ser Leu Gln Val Ala Asn Trp Ile
                245                 250                 255

Phe Phe Met Leu Trp Asn Asn Lys Cys Ile Lys Phe Val Met Leu Ala
            260                 265                 270

Leu Asn Ala Phe Pro Ser Cys His Ser Phe Ile Leu Ile Leu Gly Asn
        275                 280                 285

Ser Lys Leu Gln Gln Thr Ala Val Arg Leu Leu Trp His Leu Arg Asn
    290                 295                 300

Tyr Thr Lys Thr Pro Asn Pro Leu Pro Leu
305                 310


<210> 72
<211> 59
<212> PRT
<213> Homo sapiens

<400> 72
Met Ser Phe Leu His Ile Val Phe Ser Ile Leu Val Val Val Ala Phe
1               5                   10                  15

Ile Leu Gly Asn Phe Ala Asn Gly Phe Ile Ala Leu Ile Asn Phe Ile
            20                  25                  30

Ala Trp Val Lys Lys Gln Lys Ile Ser Ser Ala Asp Gln Ile Ile Ala
        35                  40                  45

Asp Lys Gln Ser Pro Glu Leu Val Cys Ser Gly
    50                  55
```

<210> 73
<211> 63
<212> PRT
<213> Homo sapiens

<400> 73
Met Leu Asn Ala Leu Tyr Ser Ile Leu Ile Ile Ile Ile Asn Ile Phe
1 5 10 15

Leu Ile Gly Ile Leu Gly Asn Gly Phe Ile Thr Leu Val Asn Gly Ile
20 25 30

Asp Trp Val Lys Met Lys Arg Ser Ser Ile Leu Thr Ala Leu Thr Ile
35 40 45

Ser Arg Ile Cys Leu Ile Ser Val Ile Met Val Arg Trp Phe Ile
50 55 60

<210> 74
<211> 60
<212> PRT
<213> Homo sapiens

<400> 74
Val Ser Arg Val Gly Leu Leu Trp Val Ile Leu Leu His Trp Tyr Ser
1 5 10 15

Thr Val Leu Asn Pro Thr Ser Ser Asn Leu Lys Val Ile Ile Phe Ile
20 25 30

Ser Asn Ala Trp Ala Val Thr Asn His Phe Ser Ile Trp Leu Ala Thr
35 40 45

Ser Leu Ser Ile Phe Tyr Leu Leu Lys Ile Val Asn
50 55 60

<210> 75
<211> 72
<212> PRT
<213> Homo sapiens

<400> 75
Thr Val Thr Met Leu Ala Asn Leu Val Pro Phe Thr Val Thr Leu Ile
1 5 10 15

Ser Phe Leu Leu Leu Val Cys Ser Leu Cys Lys His Leu Lys Lys Met
20 25 30

His Leu His Gly Lys Gly Ser Gln Asp Pro Ser Thr Lys Val His Ile
35 40 45

Lys Val Leu Gln Thr Val Ile Ser Phe Leu Leu Leu Cys Ala Ile Tyr
50 55 60

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Phe Val Ser Val Ile Ile Ser Ser
65                  70


<210> 76
<211> 299
<212> PRT
<213> Homo sapiens

<400> 76
Met Ile Thr Phe Leu Pro Ile Ile Phe Ser Ile Leu Val Val Val Thr
1               5                   10                  15

Phe Val Ile Gly Asn Phe Ala Asn Gly Phe Ile Ala Leu Val Asn Ser
            20                  25                  30

Thr Glu Trp Val Lys Arg Gln Lys Ile Ser Phe Ala Asp Gln Ile Val
        35                  40                  45

Thr Ala Leu Ala Val Ser Arg Val Gly Leu Leu Trp Val Leu Leu Leu
    50                  55                  60

Asn Trp Tyr Ser Thr Val Leu Asn Pro Ala Phe Tyr Ser Val Glu Leu
65                  70                  75                  80

Arg Thr Thr Ala Tyr Asn Ile Trp Ala Val Thr Gly His Phe Ser Asn
                85                  90                  95

Trp Pro Ala Thr Ser Leu Ser Ile Phe Tyr Leu Leu Lys Ile Ala Asn
            100                 105                 110

Phe Ser Asn Leu Ile Phe Leu Arg Leu Lys Arg Arg Val Lys Ser Val
        115                 120                 125

Ile Leu Val Val Leu Leu Gly Pro Leu Leu Phe Leu Ala Cys His Leu
    130                 135                 140

Phe Val Val Asn Met Asn Gln Ile Val Trp Thr Lys Glu Tyr Glu Gly
145                 150                 155                 160

Asn Met Thr Trp Lys Ile Lys Leu Arg Arg Ala Met Tyr Leu Ser Asp
                165                 170                 175

Thr Thr Val Thr Met Leu Ala Asn Leu Val Pro Phe Thr Val Thr Leu
            180                 185                 190

Ile Ser Phe Leu Leu Leu Val Cys Ser Leu Cys Lys His Leu Lys Lys
        195                 200                 205

Met Gln Leu His Gly Lys Gly Ser Gln Asp Pro Ser Thr Lys Val His
    210                 215                 220

Ile Lys Val Leu Gln Thr Val Ile Ser Phe Phe Leu Leu Cys Ala Ile
225                 230                 235                 240

Tyr Phe Val Ser Val Ile Ile Ser Val Trp Ser Phe Lys Asn Leu Glu
                245                 250                 255
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Asn Lys Pro Val Phe Met Phe Cys Gln Ala Ile Gly Phe Ser Cys Ser
            260                 265                 270

Ser Ala His Pro Phe Ile Leu Ile Trp Gly Asn Lys Lys Leu Lys Gln
        275                 280                 285

Thr Tyr Leu Ser Val Leu Trp Gln Met Arg Tyr
    290                 295


<210> 77
<211> 335
<212> PRT
<213> Rattus sp.

<400> 77
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Phe Val Thr Gly Val Leu Ala Asn Gly Leu Ile Val Val Val His Ala
            20                  25                  30

Ile Asp Leu Ile Met Trp Lys Lys Met Ala Pro Leu Asp Leu Leu Leu
        35                  40                  45

Phe Cys Leu Ala Thr Ser Arg Ile Ile Leu Gln Leu Cys Ile Leu Phe
    50                  55                  60

Ala Gln Leu Cys Leu Phe Ser Leu Val Arg His Thr Leu Phe Glu Asp
65                  70                  75                  80

Asn Ile Thr Phe Val Phe Ile Ile Asn Glu Leu Ser Leu Trp Phe Ala
                85                  90                  95

Thr Trp Leu Gly Val Phe Tyr Cys Ala Lys Ile Ala Thr Ile Pro His
            100                 105                 110

Pro Leu Phe Leu Trp Leu Lys Met Arg Ile Ser Arg Leu Val Pro Trp
        115                 120                 125

Leu Ile Leu Gly Ser Val Leu Tyr Val Ile Ile Thr Thr Phe Ile His
    130                 135                 140

Ser Arg Glu Thr Ser Ala Ile Leu Lys Pro Ile Phe Ile Ser Leu Phe
145                 150                 155                 160

Pro Lys Asn Ala Thr Gln Val Gly Thr Gly His Ala Thr Leu Leu Ser
                165                 170                 175

Val Leu Val Leu Gly Leu Thr Leu Pro Leu Phe Ile Phe Thr Val Ala
            180                 185                 190

Val Leu Leu Leu Ile Tyr Ser Leu Trp Asn Tyr Ser Arg Gln Met Arg
        195                 200                 205

Thr Met Val Gly Thr Arg Glu Tyr Ser Gly His Ala His Ile Ser Ala
    210                 215                 220
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Met Leu Ser Ile Leu Ser Phe Leu Ile Leu Tyr Leu Ser His Tyr Met
225 230 235 240

Val Ala Val Leu Ile Ser Thr Gln Val Leu Tyr Leu Gly Ser Arg Thr
245 250 255

Phe Val Phe Cys Leu Leu Val Ile Gly Met Tyr Pro Ser Ile His Ser
260 265 270

Ile Val Leu Ile Leu Gly Asn Pro Lys Leu Lys Arg Asn Ala Lys Met
275 280 285

Phe Ile Val His Cys Lys Cys Cys His Cys Thr Arg Ala Trp Val Thr
290 295 300

Ser Arg Ser Pro Arg Leu Ser Asp Leu Pro Val Pro Pro Thr His Pro
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Ser Ala Asn Lys Thr Ser Cys Ser Glu Ala Cys Ile Met Pro Ser
325 330 335

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<211> 1331
<212> DNA
<213> Rattus sp.

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gcagtttgtc actggggtct tggcaaatgg cctcattgtg gttgtccatg ctattgactt 180

gatcatgtgg aagaaaatgg ccccgttgga tctgcttcta ttttgcctgg cgacttctcg 240

gatcattctg cagttatgta tattgtttgc acaattgtgt ctattctctt tggtgagaca 300

cactttattt gaggacaata ttacctttgt cttcatcata aatgaactga gtctttggtt 360

tgctacatgg ctcggtgttt tctactgtgc caagattgct accattcctc acccactctt 420

tctgtggctg aagatgagga tatccaggtt ggtaccatgg ctgatcctgg gatctgtgct 480

ctatgtaatt attactactt tcatccatag cagagagact tcagcaatcc ttaaaccaat 540

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<210> 79
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<212> PRT
<213> Rattus sp.

<400> 79

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Ile Phe Tyr Val Glu Ile Val Thr Gly Ile Leu Gly Asn Gly Phe Ile
            20                  25                  30

Ala Leu Val Asn Ile Met Asp Trp Leu Lys Arg Arg Arg Ile Ser Thr
        35                  40                  45

Ala Asp Gln Ile Leu Thr Ala Leu Ala Leu Thr Arg Leu Ile Tyr Val
    50                  55                  60

Trp Ser Val Leu Ile Cys Ile Leu Leu Leu Phe Leu Cys Pro His Leu
65                  70                  75                  80

Ser Met Arg Pro Glu Met Phe Thr Ala Ile Gly Val Ile Trp Val Val
                85                  90                  95

Asp Asn His Phe Ser Ile Trp Leu Ala Thr Cys Leu Gly Val Phe Tyr
            100                 105                 110

Phe Leu Lys Ile Ala Ser Phe Ser Asn Ser Leu Phe Leu Tyr Leu Lys
        115                 120                 125

Trp Arg Val Lys Lys Val Val Leu Met Ile Ile Leu Ile Ser Leu Ile
    130                 135                 140

Phe Leu Met Leu Asn Ile Ser Ser Leu Gly Met Tyr Asp His Phe Ser
145                 150                 155                 160

Ile Asp Val Tyr Glu Gly Asn Met Ser Tyr Asn Leu Val Asp Ser Thr
                165                 170                 175

His Phe Pro Arg Ile Phe Leu Phe Thr Asn Ser Ser Lys Val Phe Leu
            180                 185                 190
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Ile Ala Asn Ser Ser His Val Phe Leu Pro Ile Asn Ser Leu Phe Met
        195                 200                 205

Leu Ile Pro Phe Thr Val Ser Leu Val Ala Phe Phe Val Leu Phe Leu
    210                 215                 220

Ser Leu Trp Lys His His Lys Lys Met Gln Val Asn Ala Lys Gly Pro
225                 230                 235                 240

Arg Asp Ala Ser Thr Met Ala His Thr Lys Ala Leu Gln Ile Gly Phe
                245                 250                 255

Ser Phe Leu Leu Leu Tyr Ala Ile Tyr Leu Leu Phe Ile Ile Thr Gly
            260                 265                 270

Ile Leu Asn Leu Asp Leu Met Arg Cys Ile Val Ile Leu Leu Phe Asp
        275                 280                 285

His Ile Ser Gly Ala Val Phe Ser Ile Ser His Ser Phe Val Leu Ile
    290                 295                 300

Leu Gly Asn Ser Lys Leu Arg Gln Ala Thr Leu Ser Val Leu Pro Cys
305                 310                 315                 320

Leu Arg Cys Arg Ser Lys Asp Met Asp Thr Val Val Phe
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<211> 2438
<212> DNA
<213> Rattus sp.

<400> 80

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gaggtgatga ccccttgaa attaaaaagc caagatgttc atggagaaat tataaaacaa    240

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<213> Rattus sp.

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35 40 45

Leu Ile Ser Leu Gly Ile Ser His Phe Cys Leu Gln Trp Thr Ser Met
50 55 60

Leu Tyr Asn Phe Gly Thr Tyr Ser Arg Pro Val Leu Leu Phe Trp Lys
65 70 75 80

Val Ser Val Val Trp Glu Phe Met Asn Val Leu Thr Phe Trp Leu Thr
85 90 95

Ser Leu Leu Ala Val Leu Tyr Cys Val Lys Val Ser Ser Phe Ser His
100 105 110

Pro Val Phe Leu Trp Leu Arg Leu Lys Ile Leu Lys Leu Val Leu Trp
115 120 125

Leu Leu Leu Gly Ala Leu Ile Ala Ser Cys Leu Ser Ile Ile Pro Ser
130 135 140

Val Val Lys Tyr His Ile Gln Met Glu Leu Leu Thr Leu Asp His Leu
145 150 155 160

Pro Lys Asn Ser Ser Leu Ile Leu Arg Leu Gln Met Phe Glu Trp Tyr
165 170 175

Phe Ser Asn Pro Phe Lys Met Ile Gly Phe Gly Val Pro Phe Leu Val
180 185 190

Phe Leu Ile Ser Ile Ile Leu Leu Thr Val Ser Leu Val Gln His Trp
195 200 205

Gly Gln Met Lys His Tyr Ser Ser Ser Ser Ser Ser Leu Arg Ala Gln
210 215 220

Cys Thr Val Leu Lys Ser Leu Ala Thr Phe Phe Ile Phe Phe Thr Ser
225 230 235 240

Tyr Phe Leu Thr Ile Val Val Ser Phe Ile Gly Thr Val Phe Asp Lys
245 250 255

Lys Ser Trp Phe Trp Val Cys Glu Ala Val Ile Tyr Gly Leu Val Cys
260 265 270

Ile His Phe Thr Ser Leu Met Met Ser Asn Pro Thr Leu Lys Lys Ala
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Leu Arg Leu Gln Phe Trp Ser Pro Glu Ser Ser
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gatgtacatc aatgcgcagc ctatactaca ccgaaaagga agcgcatggg tcttaaaaag 6360

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tatgtttggt cagttacacc tggagaaggg ggacatttgg tcagctcatt cgaacactgt 6480

caagtcctac caacaattcc tctatgctat tacccattaa acctcaggtc tcatcgaaaa 6540

aaaaaaaaaa aa 6552

<210> 83
<211> 308
<212> PRT
<213> Rattus sp.

<400> 83

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Ala Val Leu Gly Val Leu Gly Asp Thr Phe Ile Ala Leu Ala Asn Cys
            20                  25                  30

Met Glu Tyr Ala Lys Asn Lys Lys Leu Ser Lys Ile Gly Phe Ile Leu
        35                  40                  45

Ile Gly Leu Ala Ile Ser Arg Ile Gly Val Val Trp Ile Ile Ile Leu
    50                  55                  60

Gln Gly Tyr Met Gln Val Phe Phe Pro His Ile Leu Thr Phe Gly Asn
65                  70                  75                  80

Ile Thr Glu Tyr Ile Thr Tyr Ile Trp Val Phe Leu Asn His Leu Ser
                85                  90                  95

Val Trp Phe Ala Thr Asn Leu Asn Ile Leu Tyr Phe Leu Lys Ile Ala
            100                 105                 110
```

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Asn Phe Ser Asn Ser Val Phe Leu Trp Leu Lys Ser Arg Val Arg Val
        115                 120                 125

Val Phe Ile Phe Leu Ser Gly Cys Leu Leu Thr Ser Trp Leu Leu Cys
    130                 135                 140

Phe Pro Gln Phe Ser Lys Met Leu Asn Asn Ser Lys Met Tyr Trp Gly
145                 150                 155                 160

Asn Thr Ser Trp Leu Gln Gln Gln Lys Asn Val Phe Leu Ile Asn Gln
                165                 170                 175

Ser Leu Thr Asn Leu Gly Ile Phe Phe Phe Ile Ile Val Ser Leu Ile
            180                 185                 190

Thr Cys Phe Leu Leu Ile Val Phe Leu Trp Arg His Ile Arg Gln Met
        195                 200                 205

His Ser Asp Gly Ser Gly Leu Arg Asp Leu Asn Thr Glu Ala His Val
    210                 215                 220

Lys Ala Met Arg Val Leu Ile Ser Phe Ala Val Leu Phe Ile Leu His
225                 230                 235                 240

Phe Val Gly Leu Ser Ile Gln Val Leu Cys Phe Phe Leu Pro Gln Asn
                245                 250                 255

Asn Leu Leu Phe Ile Thr Gly Leu Ile Ala Thr Cys Leu Tyr Pro Cys
            260                 265                 270

Gly His Ser Ile Ile Leu Ile Leu Gly Asn Lys Gln Leu Lys Gln Ala
        275                 280                 285

Ser Leu Lys Ala Leu Gln His Leu Thr Cys Cys Glu Thr Lys Arg Asn
    290                 295                 300

Leu Ser Val Thr
305
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<210> 84
<211> 3449
<212> DNA
<213> Rattus sp.

<400> 84

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agcaacttcg agatctgcaa agatgctgag tgcagcagaa ggcatcctcc tttgtgttgt    180

cactagtgag gcagtgctgg gggttttagg agacacattc attgcacttg caaactgcat    240

ggagtatgcc aagaacaaga agctctctaa gattggtttc attctcattg gcttggcgat    300

ttccagaatt ggtgtcgtat ggataataat tttacagggg tatatgcaag tatttttcc     360
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acacatactt acctttggaa acataactga atatattact tacatatggg tgtttctcaa 420

tcacttaagt gtctggtttg ctaccaacct caatatcctc tactttctaa agatagcaaa 480

tttttccaac tctgtatttc tctggctgaa aagtagagtc cgtgtggttt ttatctttct 540

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caacagtaaa atgtactggg gaaacacgtc ttggctccag cagcagaaaa atgtcttcct 660

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gcagcactta acgtgctgtg agacaaaaag aaatctctca gtcacataaa tgggtttgcc 1080

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gaaaatgtca tcctgggctg gagagatggc tcagtggttc agaccactgg ctgctcttcc 3300

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ataaataaat ctaaaaaaat gttaaaaaa 3449

<210> 85
<211> 309
<212> PRT
<213> Rattus sp.

<400> 85
Met Leu Gly Ala Met Glu Gly Val Leu Leu Ser Val Ala Thr Ser Glu
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Ala Leu Leu Gly Ile Val Gly Asn Thr Phe Ile Ala Leu Val Asn Cys
            20                  25                  30

Met Asp Cys Thr Arg Asn Lys Asn Leu Tyr Asn Ile Gly Phe Ile Leu
        35                  40                  45

Thr Gly Leu Ala Ile Ser Arg Ile Cys Leu Val Trp Ile Leu Ile Thr
    50                  55                  60

Glu Ala Tyr Ile Lys Ile Phe Ser Pro Gln Leu Leu Ser Pro Ile Asn
65                  70                  75                  80

Ile Ile Glu Leu Ile Ser Tyr Leu Trp Ile Ile Thr Ser Gln Leu Asn
                85                  90                  95

Val Trp Phe Ala Thr Ser Leu Ser Ile Phe Tyr Phe Leu Lys Ile Ala
            100                 105                 110

Asn Phe Ser His His Ile Phe Leu Trp Leu Lys Arg Arg Ile Asn Ile
        115                 120                 125

Val Phe Ala Phe Leu Ile Gly Cys Leu Leu Met Ser Trp Leu Phe Ser
    130                 135                 140

Phe Pro Val Val Val Lys Met Val Lys Asp Lys Lys Met Leu Tyr Ile
145                 150                 155                 160

Asn Ser Ser Trp Gln Ile His Met Lys Lys Ser Glu Leu Ile Ile Asn
                165                 170                 175

Tyr Val Phe Thr Asn Gly Gly Val Phe Leu Leu Phe Ile Ile Met Leu
            180                 185                 190

Ile Val Cys Phe Leu Leu Ile Ile Ser Leu Trp Arg His Ser Lys Trp
        195                 200                 205

Met Gln Ser Asn Glu Ser Gly Phe Arg Asp Leu Asn Thr Glu Val His
    210                 215                 220

Val Lys Thr Ile Lys Val Leu Leu Ser Phe Ile Ile Leu Phe Ile Leu
225                 230                 235                 240

His Leu Ile Gly Ile Thr Ile Asn Val Ile Cys Leu Leu Val Pro Glu
                245                 250                 255

Asn Asn Leu Leu Phe Val Phe Gly Leu Thr Ile Ala Phe Leu Tyr Pro
            260                 265                 270

Cys Cys His Ser Leu Ile Leu Ile Leu Ala Asn Ser Arg Leu Lys Arg
        275                 280                 285

Cys Phe Val Arg Ile Leu Gln Gln Leu Met Cys Ser Glu Glu Gly Lys
    290                 295                 300

Glu Phe Arg Asn Thr
305
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<210> 86
<211> 1127
<212> DNA
<213> Rattus sp.

<400> 86
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aagctatttt aaagatctgc gaagatgctg ggtgcaatgg aaggtgtcct cctttcagtt 180

gcaactagtg aggctttgct tggcattgta gggaacacat tcattgcact tgtgaactgc 240

atggactgta ccaggaacaa gaatctctat aatattggct tcattctcac tggcttggca 300

atttccagaa tctgcctcgt gtggatctta atcacagagg catacataaa aatattctct 360

ccacagttgc tgtctcctat caacataatt gaactcatca gttatctatg gataattacc 420

agtcaattga atgtttggtt tgctaccagc ctcagtatct tttatttcct caagatagca 480

aatttttccc accacatatt tctctggtta aaaagaagaa ttaatatagt ttttgccttc 540

ctgatagggt gcttacttat gtcatggcta ttttctttcc cagtagttgt gaagatggtt 600

aaagataaaa aaatgctgta tataaactca tcttggcaaa tccacatgaa gaaaagtgag 660

ttaatcatta actatgtttt caccaatggg ggagtatttt tacttttttat aataatgtta 720

attgtatgtt ttctcttaat tatttccctt tggagacaca gcaagtggat gcaatcaaat 780

gaatcaggat tcagagatct caacacagaa gttcatgtga aaacaataaa agttttatta 840

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tgctgccact cacttatcct aattctagca aacagccggc tgaaacgatg ctttgtaagg 1020

atactgcaac aattaatgtg ctctgaggaa ggaaaagaat tcagaaacac atgacagtct 1080

ggaagacaaa caatcagaaa tagtaagtga aaaaaaaaaa aaaaaaa 1127

<210> 87
<211> 297
<212> PRT
<213> Rattus sp.

<400> 87
Glu Ala Leu Val Gly Ile Leu Gly Asn Ala Phe Ile Ala Leu Val Asn
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Phe Met Gly Trp Met Lys Asn Arg Lys Ile Thr Ala Ile Asp Leu Ile
20 25 30

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Leu Ser Ser Leu Ala Met Ser Arg Ile Cys Leu Gln Cys Ile Ile Leu
        35                  40                  45

Leu Asp Cys Ile Ile Leu Val Gln Tyr Pro Asp Thr Tyr Asn Arg Gly
    50                  55                  60

Lys Glu Met Arg Ile Ile Asp Phe Phe Trp Thr Leu Thr Asn His Leu
65                  70                  75                  80

Ser Val Trp Phe Ala Thr Cys Leu Ser Ile Phe Tyr Phe Phe Lys Ile
                85                  90                  95

Ala Asn Phe Phe His Pro Leu Phe Leu Trp Ile Lys Trp Arg Ile Asp
            100                 105                 110

Lys Leu Ile Leu Arg Thr Leu Leu Ala Cys Leu Ile Leu Ser Leu Cys
        115                 120                 125

Phe Ser Leu Pro Val Thr Glu Asn Leu Ala Asp Asp Phe Arg Arg Cys
    130                 135                 140

Val Lys Thr Lys Glu Arg Ile Asn Ser Thr Leu Arg Cys Lys Leu Asn
145                 150                 155                 160

Lys Ala Gly Tyr Ala Ser Val Lys Val Asn Leu Asn Leu Val Met Leu
                165                 170                 175

Phe Pro Phe Ser Val Ser Leu Val Ser Phe Leu Leu Leu Ile Leu Ser
            180                 185                 190

Leu Trp Arg His Thr Arg Gln Met Gln Leu Asn Val Thr Gly Tyr Asn
        195                 200                 205

Asp Pro Ser Thr Thr Ala His Val Lys Ala Thr Lys Ala Val Ile Ser
    210                 215                 220

Phe Leu Val Leu Phe Ile Val Tyr Cys Leu Ala Phe Leu Ile Ala Thr
225                 230                 235                 240

Ser Ser Tyr Phe Met Pro Glu Ser Glu Leu Ala Val Ile Trp Gly Glu
                245                 250                 255

Leu Ile Ala Leu Ile Tyr Pro Ser Ser His Ser Phe Ile Leu Ile Leu
            260                 265                 270

Gly Asn Ser Lys Leu Lys Gln Ala Ser Val Arg Val Leu Cys Arg Val
        275                 280                 285

Lys Thr Met Leu Lys Gly Arg Lys Tyr
    290                 295
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<210> 88
<211> 1304
<212> DNA
<213> Rattus sp.

<400> 88
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taagtgtctg gtttgccacc tgcctcagca ttttctattt cttcaagata gcaaacttct 300

tccatcctct tttcctctgg ataaagtgga gaattgacaa gctaattctg aggactctac 360

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catctgtaag ggtgctttgt agagtaaaga ctatgttaaa gggaagaaaa tattagcatc 900

atggatatat ttgaagaaaa actatcactg tctaaagaaa aaggatgaca aatcattatc 960

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aggcagcaca ttttcatagt aagttctgaa tcactcttcc aaatgcaaag ctgcctgaca 1200

aattcaaaac aactgtaaca gtatttcact gctgtttgca ttctttggaa aagcaggtgg 1260

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<210> 89
<211> 305
<212> PRT
<213> Rattus sp.

<400> 89
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Phe Ile Phe Gly Asn Val Thr Asn Gly Phe Ile Val Leu Thr Asn Cys
20 25 30

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Ile Ala Trp Leu Ser Lys Arg Thr Leu Ser Phe Ile Gly Trp Ile Gln
        35                  40                  45

Leu Phe Leu Ala Ile Ser Arg Val Val Leu Ile Trp Glu Met Leu Leu
    50                  55                  60

Ala Trp Leu Lys Tyr Met Lys Tyr Ser Phe Ser Tyr Leu Ala Gly Thr
65                  70                  75                  80

Glu Leu Arg Val Met Met Leu Thr Trp Val Val Ser Asn His Phe Ser
                85                  90                  95

Leu Trp Leu Ala Thr Ile Leu Ser Ile Phe Tyr Leu Leu Lys Ile Ala
            100                 105                 110

Ser Phe Ser Arg Pro Val Phe Leu Tyr Leu Lys Trp Arg Val Lys Lys
        115                 120                 125

Val Leu Leu Leu Ile Leu Leu Gly Asn Leu Ile Phe Leu Met Phe Asn
    130                 135                 140

Ile Leu Gln Ile Asn Thr His Ile Glu Asp Trp Met Asp Gln Tyr Lys
145                 150                 155                 160

Arg Asn Ile Thr Trp Asp Ser Arg Val Asn Glu Phe Val Gly Phe Ser
                165                 170                 175

Asn Leu Val Leu Leu Glu Met Ile Met Phe Ser Val Thr Pro Phe Thr
            180                 185                 190

Val Ala Leu Val Ser Phe Ile Leu Leu Ile Phe Ser Leu Trp Lys His
        195                 200                 205

Leu Gln Lys Met His Leu Ser Ser Arg Gly Glu Arg Asp Pro Ser Thr
    210                 215                 220

Lys Ala His Val Asn Ala Leu Arg Ile Met Val Ser Phe Leu Leu Leu
225                 230                 235                 240

Tyr Ala Thr Tyr Phe Ile Ser Phe Phe Ile Ser Leu Ile Pro Met Ala
                245                 250                 255

His Lys Lys Gly Leu Asp Leu Met Phe Ser Leu Thr Val Gly Leu Phe
            260                 265                 270

Tyr Pro Ser Ser His Ser Phe Ile Leu Ile Leu Gly His Ser Asn Leu
        275                 280                 285

Arg His Ser Ser Cys Leu Val Ile Thr Tyr Leu Arg Cys Lys Glu Lys
    290                 295                 300

Asp
305
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<210> 90
<211> 3994
<212> DNA

<213> Rattus sp.

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<223> n is a, c, g, or t

<220>
<221> modified_base
<222> (42)..(42)
<223> n is a, c, g, or t

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acgagctgtg aatttttgtc atctggacat gggaagcagc ctgtatgata tcttaactat 180

tgtcatgatt gcagagttta tattcggaaa tgtgaccaat ggattcatag tgctgacaaa 240

ctgtattgct tggctcagta aaagaactct ttctttcatt ggttggatcc agcttttctt 300

ggccatttcc agagtggttt tgatatggga aatgttacta gcatggctga aatatatgaa 360

gtattcattt tcatatttgg ctggcacaga attaagggtt atgatgttga cctgggtagt 420

ttccaatcac tttagtctct ggcttgccac cattctaagc atcttttatt tgctcaaaat 480

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gctgattctt ctcggaaatt taatcttcct gatgttcaat atattacaaa tcaacactca 600

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caccgtggct ctggtctcct tcatcctgtt aatcttctct ttatggaaac atctccagaa 780

gatgcatctc agttccagag gggaacgaga ccctagcaca aaagcccatg tgaatgccct 840

gagaattatg gtctccttcc tcttactcta tgccacttac ttcatatcct tttttatatc 900

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cagttgtctg gtgataacct atctgagatg taaggaaaag gattagaaat tcactattcc 1080

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atcaataaat tacaaaatgt aaacataaac agggtgatta aaaattagcc tctaggtcct 1560

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gttgttttaa ataaaaggaa agtgggtcta tattacttga attggataga gaaattttca 3840

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<210> 91
<211> 314
<212> PRT
<213> Rattus sp.

<400> 91

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Trp Asp Trp Val Val Lys Arg Lys Leu Ser Thr Ile Asp Lys Ile Leu
        35                  40                  45

Leu Thr Leu Ala Ile Ser Arg Ile Thr Leu Ile Trp Glu Met Tyr Ala
    50                  55                  60

Cys Phe Lys Ile Val Tyr Gly Ser Ser Ser Phe Ile Phe Gly Met Lys
65                  70                  75                  80

Leu Gln Ile Leu Tyr Phe Ala Trp Ile Leu Ser Ser His Phe Ser Leu
                85                  90                  95

Trp Phe Ala Thr Ala Leu Ser Ile Phe Tyr Leu Leu Arg Ile Ala Asn
            100                 105                 110
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Cys Ser Trp Lys Ile Phe Leu Tyr Leu Lys Trp Arg Leu Lys Gln Val
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Ile Val Gly Met Leu Leu Ala Ser Leu Val Phe Leu Pro Gly Ile Leu
    130                 135                 140

Met Gln Arg Thr Leu Glu Glu Arg Pro Tyr Gln Tyr Gly Gly Asn Thr
145                 150                 155                 160

Ser Glu Asp Ser Met Glu Thr Asp Phe Ala Lys Phe Thr Glu Leu Ile
                165                 170                 175

Leu Phe Asn Met Thr Ile Phe Ser Val Ile Pro Phe Ser Leu Ala Leu
            180                 185                 190

Ile Ser Phe Leu Leu Leu Ile Phe Ser Leu Trp Lys His Leu Gln Lys
        195                 200                 205

Met Gln Leu Ser Ser Arg Gly His Gly Asp Pro Ser Thr Lys Ala His
    210                 215                 220

Arg Asn Ala Leu Arg Ile Met Val Ser Phe Leu Leu Leu Tyr Thr Ser
225                 230                 235                 240

Tyr Phe Leu Ser Leu Leu Ile Ser Trp Ile Ala Gln Lys His His Ser
                245                 250                 255

Lys Leu Val Asp Ile Ile Gly Ile Ile Thr Glu Leu Met Tyr Pro Ser
            260                 265                 270

Val His Ser Phe Ile Leu Ile Leu Gly Asn Ser Lys Leu Lys Gln Thr
        275                 280                 285

Ser Leu Trp Ile Leu Ser His Leu Lys Cys Arg Leu Lys Gly Glu Asn
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<210> 92
<211> 1886
<212> DNA
<213> Rattus sp.

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acaaattctt tattttgcct ggatcctttc tagtcacttc agcctctggt ttgccacagc 360

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gaaatggaga cttaaacaag tgattgtggg gatgttgctg gcaagcttgg tgttcttgcc 480

tggaatcctg atgcaaagga ctcttgaaga gaggccctat caatatggag gaaacacaag 540

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caagatatgc tgggacaatg gtggctcaga gattttggga ctggccaacc aatgtctatt 1260

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caatgtgaat aagtaagtct ctgacactta ttcccgctct tggaaccctt ttccacattt 1800

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<210> 93
<211> 309
<212> PRT
<213> Rattus sp.

<400> 93
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35 40 45

Phe Gly Leu Ala Thr Ser Arg Ile Phe Ile Val Trp Ile Leu Ile Leu
50 55 60

Asp Ala Tyr Ala Lys Leu Phe Phe Pro Gly Lys Tyr Leu Ser Lys Ser
65 70 75 80

Leu Thr Glu Ile Ile Ser Cys Ile Trp Met Thr Val Asn His Met Thr
85 90 95

Val Trp Phe Ala Thr Ser Leu Ser Ile Phe Tyr Phe Leu Lys Ile Ala
100 105 110

Asn Phe Ser His Tyr Ile Phe Leu Trp Leu Lys Arg Arg Thr Asp Lys
115 120 125

Val Phe Ala Phe Leu Leu Trp Cys Leu Leu Ile Ser Trp Ala Ile Ser
130 135 140

Phe Ser Phe Thr Val Lys Val Met Lys Ser Asn Pro Lys Asn His Gly
145 150 155 160

Asn Arg Thr Ser Gly Thr His Trp Glu Lys Arg Glu Phe Thr Ser Asn
165 170 175

Tyr Val Leu Ile Asn Ile Gly Val Ile Ser Leu Leu Ile Met Thr Leu
180 185 190

Thr Ala Cys Phe Leu Leu Ile Ile Ser Leu Trp Lys His Ser Arg Gln
195 200 205

Met Gln Ser Asn Val Ser Gly Phe Arg Asp Leu Asn Thr Glu Ala His
210 215 220

Val Lys Ala Ile Lys Phe Leu Ile Ser Phe Ile Ile Leu Phe Ile Leu
225 230 235 240

Tyr Phe Ile Gly Val Ala Val Glu Ile Ile Cys Met Phe Ile Pro Glu
245 250 255

Asn Lys Leu Leu Phe Ile Phe Gly Leu Thr Thr Ala Ser Val Tyr Pro
260 265 270

Cys Cys His Ser Val Ile Leu Ile Leu Thr Asn Ser Gln Leu Lys Gln
275 280 285

Ala Phe Val Lys Val Leu Glu Gly Leu Lys Phe Ser Glu Asn Gly Lys
290 295 300

Asp Leu Arg Ala Thr
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<210> 94
<211> 2596
<212> DNA
<213> Rattus sp.

<400> 94
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<210> 95
<211> 137
<212> PRT
<213> Rattus sp.

<400> 95
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Ile Phe Phe Val Glu Ile Thr Met Gly Ile Leu Gly Asn Gly Phe Ile
20 25 30

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Ala Leu Val Asn Ile Val Asp Trp Ile Lys Arg Arg Arg Ile Ser Ser
        35                  40                  45

Val Asp Lys Ile Leu Thr Thr Leu Ala Leu Thr Arg Leu Ile Tyr Ala
    50                  55                  60

Trp Ser Met Leu Ile Phe Ile Leu Leu Phe Ile Leu Gly Pro His Leu
65                  70                  75                  80

Ile Met Arg Ser Glu Ile Leu Thr Ser Met Gly Val Ile Trp Val Val
                85                  90                  95

Asn Asn His Phe Ser Ile Trp Leu Ala Thr Cys Leu Gly Val Phe Tyr
            100                 105                 110

Phe Leu Lys Ile Ala Asn Phe Ser Asn Ser Leu Phe Leu Tyr Leu Lys
        115                 120                 125

Trp Arg Val Lys Lys Val Val Leu Met
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<210> 96
<211> 818
<212> DNA
<213> Rattus sp.

<400> 96

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gggaatcaaa tttccttcct gataggttag cttatgagaa ttcagcatct tattcaactt   180

cagaaaattg gatataagat acagtgtctg gatgaagccg aattgatcta tttggggaga   240

aaaaacgcca acatttataa taaggtttta tgagacagtt cctgggaaat ttggatattt   300

cctagttagt aatgtgtaaa tgggatttta aaacatgatt attttgtatt tttaacaacc   360

aacatgagga gctttttaaa tgccacttag acattataaa ctgaagcatg ttcttacaca   420

caataaagca acgtgatatt tttactttga taatcatatt ttttgtggaa ataacaatgg   480

gaatcttagg aaatggattc atagcactag tgaacattgt ggactggatc aagagaagaa   540

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<210> 97
<211> 104
<212> PRT
<213> Rattus sp.

<400> 97
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Lys Ser Lys Lys Ile Ser Leu Ser Asp Phe Ile Ile Thr Ser Leu Ala
20 25 30

Leu Phe Arg Ile Phe Leu Leu Trp Ile Ile Phe Thr Asp Ser Leu Ile
35 40 45

Ile Val Phe Ser Tyr His Ala His Asp Ser Gly Ile Arg Met Gln Leu
50 55 60

Ile Asp Val Phe Trp Thr Phe Thr Thr His Phe Ser Ile Trp Leu Ile
65 70 75 80

Ser Cys Leu Ser Val Phe Tyr Cys Leu Lys Ile Ala Thr Phe Ser His
85 90 95

Pro Ser Phe Leu Leu Lys Ser Arg
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<210> 98
<211> 315
<212> DNA
<213> Rattus sp.

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atcatcttta ctgatagcct cataatagtg ttctcttacc acgcccacga ctcagggata 180

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<210> 99
<211> 308
<212> PRT
<213> Rattus sp.

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Cys Phe Leu Gly Ile Leu Ala Asn Gly Phe Ile Val Leu Met Leu Ser
20 25 30

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Arg Glu Trp Leu Trp Arg Gly Arg Leu Leu Pro Ser Asp Met Ile Leu
        35                  40                  45

Leu Ser Leu Gly Thr Ser Arg Phe Cys Gln Gln Cys Val Gly Leu Val
    50                  55                  60

Asn Ser Phe Tyr Tyr Ser Leu His Leu Val Glu Tyr Ser Arg Ser Leu
65                  70                  75                  80

Ala Arg Gln Leu Ile Ser Leu His Met Asp Phe Leu Asn Ser Ala Thr
                85                  90                  95

Phe Trp Phe Gly Thr Trp Leu Ser Val Leu Phe Cys Ile Lys Ile Ala
            100                 105                 110

Asn Phe Ser His Pro Ala Phe Leu Trp Leu Lys Trp Arg Phe Pro Ala
        115                 120                 125

Leu Val Pro Trp Leu Leu Leu Gly Ser Ile Leu Val Ser Phe Ile Val
    130                 135                 140

Thr Leu Met Phe Phe Trp Gly Asn His Thr Val Tyr Gln Ala Phe Leu
145                 150                 155                 160

Arg Arg Lys Phe Ser Gly Asn Thr Thr Phe Lys Glu Trp Asn Arg Arg
                165                 170                 175

Leu Glu Ile Asp Tyr Phe Met Pro Leu Lys Leu Val Thr Thr Ser Ile
            180                 185                 190

Pro Cys Ser Leu Phe Leu Val Ser Ile Leu Leu Leu Ile Asn Ser Leu
        195                 200                 205

Arg Arg His Ser Gln Arg Met Gln His Asn Ala His Ser Leu Gln Asp
    210                 215                 220

Pro Asn Thr Gln Ala His Ser Arg Ala Leu Lys Ser Leu Ile Ser Phe
225                 230                 235                 240

Leu Val Leu Tyr Ala Leu Ser Tyr Val Ser Met Val Ile Asp Ala Thr
                245                 250                 255

Val Val Ile Ser Ser Asp Asn Val Trp Tyr Trp Pro Trp Gln Ile Ile
            260                 265                 270

Leu Tyr Leu Cys Met Ser Val His Pro Phe Ile Leu Ile Thr Asn Asn
        275                 280                 285

Leu Lys Phe Arg Gly Thr Phe Arg Gln Leu Leu Leu Leu Ala Arg Gly
    290                 295                 300

Phe Trp Val Thr
305
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<210> 100
<211> 1295
<212> DNA
<213> Rattus sp.

<400> 100
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<210> 101
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<212> PRT
<213> Rattus sp.

<400> 101

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Met Cys Gly Phe Pro Leu Ser Ile Gln Leu Leu Thr Gly Leu Val Gln
1               5                  10                  15

Met Tyr Val Ile Leu Ile Ile Ala Val Phe Thr Pro Gly Met Leu Gly
            20                  25                  30

Asn Val Phe Ile Gly Leu Val Asn Tyr Ser Asp Trp Val Lys Asn Lys
        35                  40                  45

Lys Ile Thr Phe Ile Asn Phe Ile Leu Ile Cys Leu Ala Ala Ser Arg
    50                  55                  60

Ile Ser Ser Val Leu Val Val Phe Ile Asp Ala Ile Ile Leu Glu Leu
65                  70                  75                  80

Thr Pro His Val Tyr His Ser Tyr Ser Arg Val Lys Cys Ser Asp Ile
                85                  90                  95

Phe Trp Val Ile Thr Asp Gln Leu Ser Thr Trp Leu Ala Thr Cys Leu
            100                 105                 110

Ser Ile Phe Tyr Leu Leu Lys Ile Ala His Phe Ser His Pro Leu Phe
        115                 120                 125

Leu Trp Leu Lys Trp Arg Leu Arg Gly Val Leu Val Gly Phe Leu Leu
    130                 135                 140

Phe Ser Leu Phe Ser Leu Ile Val Tyr Phe Leu Leu Leu Glu Leu Leu
145                 150                 155                 160

Ser Ile Trp Gly Asp Ile Tyr Val Ile Pro Lys Ser Asn Leu Thr Leu
                165                 170                 175

Tyr Ser Glu Thr Ile Lys Thr Leu Ala Phe Gln Lys Ile Ile Val Phe
            180                 185                 190

Asp Met Leu Tyr Leu Val Pro Phe Leu Val Ser Leu Ala Ser Leu Leu
        195                 200                 205

Leu Leu Phe Leu Ser Leu Val Lys His Ser Gln Asn Leu Asp Arg Ile
    210                 215                 220

Ser Thr Thr Ser Glu Asp Ser Arg Ala Lys Ile His Lys Lys Ala Met
225                 230                 235                 240

Lys Met Leu Leu Ser Phe Leu Val Leu Phe Ile Ile His Ile Phe Cys
                245                 250                 255

Met Gln Leu Ser Arg Trp Leu Phe Phe Leu Phe Pro Asn Asn Arg Ser
            260                 265                 270

Thr Asn Phe Leu Leu Leu Thr Leu Asn Ile Phe Pro Leu Ser His Thr
        275                 280                 285

Phe Ile Ile Ile Leu Gly Asn Ser Lys Leu Arg Gln Arg Ala Met Arg
    290                 295                 300
```

Val Leu Gln His Leu Lys Ser Gln Leu Gln Glu Leu Ile Leu Ser Leu
305 310 315 320

His Arg Leu Ser Arg Val Phe Thr Met Glu Ile Ala
325 330

<210> 102
<211> 1287
<212> DNA
<213> Rattus sp.

<400> 102
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tatcaatttc tatccattgg aaggagtttc caatcacact gaaattacaa taaaaaagga 120

gcaagataac tatgggaaag gatgattttc ggtggatgtt tgagaactga gcagcaaggc 180

aaattgatag atgtgtggat tccctctttc tattcaactg cttactggat tggttcaaat 240

gtacgtgata ttgataatag cagtgtttac acctggaatg ctggggaatg tgttcattgg 300

actggtaaac tactctgact gggtaaaaaa caagaaaatc accttcatca acttcatcct 360

gatctgtttg gcagcgtcca gaatcagctc tgtgttggtg gtatttattg atgcaatcat 420

cctagaacta actcctcatg tctatcattc ttacagtcga gtgaaatgct ctgatatatt 480

ctgggttata actgaccagc tgtcaacgtg gcttgccacc tgcctcagca ttttctactt 540

actcaaaata gcccacttct cccatcccct tttcctttgg ttgaagtgga gattgagagg 600

agtgcttgtt ggttttcttc tattttcttt gttctcattg attgtttatt ttctactcct 660

ggaattactg tctatttggg gagatattta tgtgatccct aaaagcaatc tgactttata 720

ttcagaaaca attaagaccc ttgcttttca aaagataatt gtttttgata tgctatattt 780

agtcccattt cttgtgtccc tagcctcatt gctcctttta tttttatcct tggtgaagca 840

ctcccaaaac cttgacagga tttctaccac ctctgaagat tccagagcca agatccacaa 900

gaaggccatg aaaatgctat tatctttcct cgttctcttt ataattcaca ttttttgcat 960

gcagttgtca cggtggttat tctttttgtt tccaaacaac aggtcaacta attttctttt 1020

gttaacatta aacatcttcc cattatctca tacattcatt atcatcctgg gaaacagcaa 1080

gcttcgacaa agagcaatga gggtcctgca acatcttaaa agccaacttc aagagttgat 1140

cctctccctt catagattgt ccagagtctt cactatggaa atagcttaaa ggggagactt 1200

ggaaggtcac tggtaacttg ttcttccgct gagttctgtt aagtaatgct ggacatatat 1260

gaactatccc tagtgcatac tgatatt 1287

<210> 103
<211> 68
<212> PRT
<213> Rattus sp.

<400> 103
Val Ala Asn Ile Met Asp Trp Val Lys Arg Arg Lys Leu Ser Ala Val
1 5 10 15

Asp Gln Leu Leu Thr Val Leu Ala Ile Ser Arg Ile Thr Leu Leu Trp
20 25 30

Ser Leu Tyr Ile Leu Lys Ser Thr Phe Ser Met Val Pro Asn Phe Glu
35 40 45

Val Ala Ile Pro Ser Thr Arg Leu Thr Asn Leu Val Trp Ile Ile Ser
50 55 60

Asn His Phe Asn
65

<210> 104
<211> 206
<212> DNA
<213> Rattus sp.

<400> 104
ctgtggcaaa cataatggat tgggtcaaga gaaggaagct ctctgcagtg gatcagctcc 60

tcactgtgct ggccatctcc agaatcactc tgttgtggtc attgtacata ctgaaatcaa 120

cattttcaat ggtgccaaac tttgaggtag ctataccgtc aacaagacta actaatcttg 180

tctggataat ttctaaccat tttaat 206

<210> 105
<211> 327
<212> PRT
<213> Mus musculus

<400> 105
Met Gln His Leu Leu Lys Thr Ile Phe Val Ile Cys His Ser Thr Leu
1 5 10 15

Ala Ile Ile Leu Ile Phe Glu Leu Ile Ile Gly Ile Leu Gly Asn Gly
20 25 30

Phe Met Ala Leu Val His Cys Met Asp Trp Val Lys Arg Lys Lys Met
35 40 45

Ser Leu Val Asn Lys Ile Leu Thr Ala Leu Ala Ile Ser Arg Ile Phe
50 55 60

His Leu Ser Leu Leu Leu Ile Ser Leu Val Ile Phe Phe Ser Tyr Ser
65 70 75 80

```
Asp Ile Pro Met Thr Ser Arg Met Thr Gln Val Ser Asn Asn Val Trp
                85                  90                  95

Ile Ile Val Asn His Phe Ser Ile Trp Leu Ser Thr Cys Leu Ser Val
            100                 105                 110

Leu Tyr Phe Leu Lys Ile Ser Asn Phe Ser Asn Ser Phe Phe Leu Tyr
        115                 120                 125

Leu Lys Trp Arg Val Glu Lys Val Val Ser Val Thr Leu Leu Val Ser
    130                 135                 140

Leu Leu Leu Leu Ile Leu Asn Ile Leu Leu Ile Asn Leu Glu Ile Ser
145                 150                 155                 160

Ile Cys Ile Lys Glu Cys Gln Arg Asn Ile Ser Cys Ser Phe Ser Ser
                165                 170                 175

His Tyr Tyr Ala Lys Cys His Arg Gln Val Ile Arg Leu His Ile Ile
            180                 185                 190

Phe Leu Ser Val Pro Val Val Leu Ser Leu Ser Thr Phe Leu Leu Leu
        195                 200                 205

Ile Phe Ser Leu Trp Thr Leu His Gln Arg Met Gln Gln His Val Gln
    210                 215                 220

Gly Gly Arg Asp Ala Arg Thr Thr Ala His Phe Lys Ala Leu Gln Thr
225                 230                 235                 240

Val Ile Ala Phe Phe Leu Leu Tyr Ser Ile Phe Ile Leu Ser Val Leu
                245                 250                 255

Ile Gln Asn Glu Leu Leu Lys Lys Asn Leu Phe Val Val Phe Cys Glu
            260                 265                 270

Val Val Tyr Ile Ala Phe Pro Thr Phe His Ser Tyr Ile Leu Ile Val
        275                 280                 285

Gly Asp Met Lys Leu Arg Gln Ala Cys Leu Pro Leu Cys Ile Ile Ala
    290                 295                 300

Ala Glu Ile Gln Thr Thr Leu Cys Arg Asn Phe Arg Ser Leu Lys Tyr
305                 310                 315                 320

Phe Arg Leu Cys Cys Ile Phe
                325
```

<210> 106
<211> 1374
<212> DNA
<213> Mus musculus

<400> 106
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tatcacggaa agagattcag actctgtcgc tgtcaaacct gtatgtttgc tcctctttta 120

ctgtgaaggc agagttacga aaaaaaatgt tatgagaacc aactcagaaa ttgacaaaaa 180

ttttctaaat gtcattttta aaaattatat ttcaaatgga aatgtgagca aatctttata 240

actaatatat aaaatgcagc atcttttaaa gacaatattt gttatctgcc atagcacact 300

tgcaatcatt ttaatctttg aattaataat tggaatttta ggaaatgggt tcatggccct 360

ggtgcactgt atggactggg ttaagagaaa gaaaatgtcc ttagttaata aaatcctcac 420

tgctttggca atctccagaa tttttcatct cagtttattg cttataagtt tagtcatatt 480

cttttcatat tctgatattc ctatgacttc aaggatgaca caagtcagta ataatgtttg 540

gattatagtc aatcatttca gtatctggct ttctacatgc ctcagtgtcc tttatttttct 600

caagatatcc aatttttcta actctttttt tctttatcta aagtggagag ttgaaaaagt 660

agtttcagtt acactgttgg tgtcattgct cctcctgatt ttaaatattt tattaattaa 720

cttggaaatt agcatatgca taaaggaatg tcaaagaaac atatcatgca gcttcagttc 780

tcattactat gcaaagtgtc acaggcaggt gataaggctt cacattattt tcctgtctgt 840

ccccgttgtt ttgtccctgt caacttttct cctgctcatc ttctccctgt ggacacttca 900

ccagaggatg cagcagcatg ttcagggagg cagagatgcc agaaccacgg cccacttcaa 960

agccctacaa actgtgattg cattttтcct actatattcc atttttattc tgtctgtctt 1020

aatacaaata tgaattactg aagaaaaatc ttttcgttgt attttgtgag gttgtatata 1080

tagcttttcc gacattccat tcatatattc tgattgtagg agacatgaag ctgagacagg 1140

cctgcctgcc tctctgtatt atcgcagctg aaattcagac tacactatgt agaaatttta 1200

gatcactaaa gtactttaga ttatgttgta tattctagac aaaaattaac tgatacaaat 1260

gtcttttgta tttttcattt taaatatcct ttaattttga ctgcatgaaa ttgatttctg 1320

cttgcaatta tcactgatta aaactattaa taatttaact agttgtatac aagg 1374

<210> 107
<211> 327
<212> PRT
<213> Mus musculus

<400> 107
Met Glu Ser Val Leu His Asn Phe Ala Thr Val Leu Ile Tyr Val Glu
1 5 10 15

Phe Ile Phe Gly Asn Leu Ser Asn Gly Phe Ile Val Leu Ser Asn Phe
20 25 30

Leu Asp Trp Val Ile Lys Gln Lys Leu Ser Leu Ile Asp Lys Ile Leu
35 40 45

```
Leu Thr Leu Ala Ile Ser Arg Ile Thr Leu Ile Trp Glu Ile Tyr Ala
    50                  55                  60

Trp Phe Lys Ser Leu Tyr Asp Pro Ser Ser Phe Leu Ile Gly Ile Glu
65                  70                  75                  80

Phe Gln Ile Ile Tyr Phe Ser Trp Val Leu Ser Ser His Phe Ser Leu
                85                  90                  95

Trp Leu Ala Thr Thr Leu Ser Val Phe Tyr Leu Leu Arg Ile Ala Asn
            100                 105                 110

Cys Ser Trp Gln Ile Phe Leu Tyr Leu Lys Trp Arg Leu Lys Gln Leu
        115                 120                 125

Ile Val Gly Met Leu Leu Gly Ser Leu Val Phe Leu Leu Gly Asn Leu
    130                 135                 140

Met Gln Ser Met Leu Glu Glu Arg Phe Tyr Gln Tyr Gly Arg Asn Thr
145                 150                 155                 160

Ser Val Asn Thr Met Ser Asn Asp Leu Ala Met Trp Thr Glu Leu Ile
                165                 170                 175

Phe Phe Asn Met Ala Met Phe Ser Val Ile Pro Phe Thr Leu Ala Leu
            180                 185                 190

Ile Ser Phe Leu Leu Leu Ile Phe Ser Leu Trp Lys His Leu Gln Lys
        195                 200                 205

Met Gln Leu Ile Ser Arg Arg His Arg Asp Pro Ser Thr Lys Ala His
    210                 215                 220

Met Asn Ala Leu Arg Ile Met Val Ser Phe Leu Leu Leu Tyr Thr Met
225                 230                 235                 240

His Phe Leu Ser Leu Leu Ile Ser Trp Ile Ala Gln Lys His Gln Ser
                245                 250                 255

Glu Leu Ala Asp Ile Ile Gly Met Ile Thr Glu Leu Met Tyr Pro Ser
            260                 265                 270

Val His Ser Cys Ile Leu Ile Leu Gly Asn Ser Lys Leu Lys Gln Thr
        275                 280                 285

Ser Leu Cys Met Leu Arg His Leu Arg Cys Arg Leu Lys Gly Glu Asn
    290                 295                 300

Ile Thr Ile Ala Tyr Ser Asn Gln Ile Thr Ser Phe Cys Val Phe Cys
305                 310                 315                 320

Val Ala Asn Lys Ser Met Arg
                325
```

<210> 108
<211> 1759
<212> DNA
<213> Mus musculus

<400> 108
cagcacagtg aaaaactcat gggccacttg gtcacccagg gacaggcgac gctgttatat 60

gccaagcttt ctatgaacat ggaatctgtc cttcacaact ttgccactgt actaatatac 120

gtggagttta tttttgggaa tttgagcaat ggattcatag tgttgtcaaa cttcttggac 180

tgggtcatta aacaaaagct ttccttaata gataaaattc ttcttacatt ggcaatttca 240

agaatcactc tcatctggga aatatatgct tggtttaaaa gtttatatga tccatcttcc 300

tttttaattg gaatagaatt tcaaattatt tattttagct gggtcctttc tagtcacttc 360

agcctctggc ttgccacaac tctcagcgtc ttttatttac tcagaatagc taactgctcc 420

tggcagatct ttctctattt gaaatggaga cttaaacaac tgattgtggg gatgttgctg 480

ggaagcttgg tgttcttgct tggaaatctg atgcaaagca tgcttgaaga gaggttctat 540

caatatggaa ggaacacaag tgtgaatacc atgagcaatg accttgcaat gtggaccgag 600

ctgatctttt tcaacatggc tatgttctct gtaataccat ttacattggc cttgatttct 660

tttctcctgc taatcttctc tttgtggaaa catctccaga agatgcagct catttccaga 720

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cagagtgaac tggctgatat tattggtatg ataactgaac tcatgtatcc ttcagtccat 900

tcatgtatcc tgattctagg aaattctaaa ttaaagcaga cttctctttg tatgctgagg 960

catttgagat gtaggctgaa aggagagaat atcacaattg catatagcaa ccaaataact 1020

agcttttgtg tattctgtgt tgcaaacaaa tctatgaggt agttgttcaa ggaatccttc 1080

cttgacttat tgtatcatgg aagtcatatg ggggagtctg aaagagctgt cttctgtaag 1140

caaggtttgt atacactagt ggggctggga caccaaccca agcacaaaac ctagctataa 1200

cctatcctgg ctgcaggata tgctggaaca atggtggctt ggaaattgtg ggactggcaa 1260

agcaatagct agtctaactt gaggcccatt ccacagcagg aagctcatgc ccacctctgc 1320

ctggatggcc aggaagcaaa atcttgatgg ccccaagacc tatggtaaac tgaacactac 1380

tggaaaaaga aagactcgtg ttaatgatct atcaaatatt tcctaatgat attctgataa 1440

actcatatat tagtccctgt cctaatcatc atcactggga ctccttccca gcacctgatg 1500

ggagcagata gagatctaca tccaaatagt aagtgtatct tggggaactc cacttaagaa 1560

tagaaggaac aattatgaga gccagagtga tccagaacac taggatcaca gaatcaacta 1620

agcagcatgc ataggggtta atggagactg aagtggcaat cacagagcct gcataggtct 1680

acactaagtc ctctgtgtat atactgtggc tgtttagctt aggaattttg ttggactcct 1740

aacaatggat aaggaattc 1759

<210> 109
<211> 312
<212> PRT
<213> Mus musculus

<400> 109

```
Met Val Leu Thr Ile Arg Ala Ile Leu Trp Val Thr Leu Ile Thr Ile
1               5                  10                  15

Ile Ser Leu Glu Phe Ile Ile Gly Ile Leu Gly Asn Val Phe Ile Ala
            20                  25                  30

Leu Val Asn Ile Ile Asp Trp Val Lys Arg Gly Lys Ile Ser Ala Val
        35                  40                  45

Asp Lys Thr Tyr Met Ala Leu Ala Ile Ser Arg Thr Ala Phe Leu Leu
    50                  55                  60

Ser Leu Ile Thr Gly Phe Leu Val Ser Leu Leu Asp Pro Ala Leu Leu
65                  70                  75                  80

Gly Met Arg Thr Met Val Arg Leu Leu Thr Ile Ser Trp Met Val Thr
                85                  90                  95

Asn His Phe Ser Val Trp Phe Ala Thr Cys Leu Ser Ile Phe Tyr Phe
            100                 105                 110

Leu Lys Ile Ala Asn Phe Ser Asn Ser Ile Phe Leu Val Leu Lys Trp
        115                 120                 125

Glu Ala Lys Lys Val Val Ser Val Thr Leu Val Val Ser Val Ile Ile
    130                 135                 140

Leu Ile Met Asn Ile Ile Val Ile Asn Lys Phe Thr Asp Arg Leu Gln
145                 150                 155                 160

Val Asn Thr Leu Gln Asn Cys Ser Thr Ser Asn Thr Leu Lys Asp Tyr
                165                 170                 175

Gly Leu Phe Leu Phe Ile Ser Thr Gly Phe Thr Leu Thr Pro Phe Ala
            180                 185                 190

Val Ser Leu Thr Met Phe Leu Leu Leu Ile Phe Ser Leu Trp Arg His
        195                 200                 205

Leu Lys Asn Met Cys His Ser Ala Thr Gly Ser Arg Asp Val Ser Thr
    210                 215                 220
```

```
Val Ala His Ile Lys Gly Leu Gln Thr Val Val Thr Phe Leu Leu Leu
225                 230                 235                 240

Tyr Thr Ala Phe Val Met Ser Leu Leu Ser Glu Ser Leu Asn Ile Asn
                245                 250                 255

Ile Gln His Thr Asn Leu Leu Ser His Phe Leu Arg Ser Ile Gly Val
            260                 265                 270

Ala Phe Pro Thr Gly His Ser Cys Val Leu Ile Leu Gly Asn Ser Lys
        275                 280                 285

Leu Arg Gln Ala Ser Leu Ser Val Ile Leu Trp Leu Arg Tyr Lys Tyr
    290                 295                 300

Lys His Ile Glu Asn Trp Gly Pro
305                 310
```

<210> 110
<211> 1484
<212> DNA
<213> Mus musculus

<400> 110

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ctttaatagc agggtgtgaa tatttaaatt ttctttctgc agcaactact gagggcttca     60

gactgctgta tacagggcat gaagcatctg gatgaagttc agctgtgctg cctttgacaa    120

caatttttg tgtatgtgtg gagaacataa accatttcat tagtgaaatt tggcttttgg    180

gtgacattgt ctatgatagt tctgaaagtg attatgttaa gaatcagaca cagccgtcta    240

gaagattgta ttaacacatc tttggtagtt cagaagaaat tagatcatca tggtgttgac    300

aataagggct attttatggg taacattgat aactattata agtctggagt ttatcatagg    360

aattttagga aatgtattca tagctctcgt gaacatcata gactgggtta aaagaggaaa    420

gatctctgca gtggataaga cctatatggc cctggccatc tccaggactg ctttttatt     480

gtcactaatc acagggttct tggtatcatt attggaccca gctttattgg gaatgagaac    540

gatggtaagg ctccttacta tttcctggat ggtgaccaat catttcagtg tctggtttgc    600

aacatgcctc agtatctttt attttctcaa gatagctaat ttctcaaatt ctattttcct    660

tgttctcaaa tgggaagcta aaaaagtggt atcagtgaca ttggtggtat ctgtgataat    720

cttgatcatg aacattatag tcataaacaa attcactgac agacttcaag taaacacact    780

ccagaactgt agtacaagta acactttaaa agattatggg ctctttttat tcattagcac    840

tgggtttaca ctcaccccat tcgctgtgtc tttgacaatg tttcttctgc tcatcttctc    900

cctgtggaga catctgaaga atatgtgtca cagtgccaca ggctccagag atgtcagcac    960

agtggcccac ataaaaggct tgcaaactgt ggtaaccttc ctgttactat atactgcttt   1020
```

tgttatgtca cttctttcag agtctttgaa tattaacatt caacatacaa atcttctttc 1080

tcatttttta cggagtatag gagtagcttt tcccacaggc cactcctgtg tactgattct 1140

tggaaacagt aagctgaggc aagcctctct ttctgtgata ttgtggctga ggtataagta 1200

caaacatata gagaattggg gcccctaaat catatcaggg atccttttcc acattctaga 1260

aaaaaatcag ttaataagaa caggaattta ggaaggaatc tgaaattatg aatctcatag 1320

gccatgaacc ttcagacaaa ggattcatta gagagataga gagagaacat tgttatctgt 1380

aactggacag gcaacactgt agattatgaa aataaatgtc agtctgtaat ggaaagcaaa 1440

acatgctata ttttattaat tggttttggt ttaaggtcgg gata 1484

<210> 111
<211> 302
<212> PRT
<213> Mus musculus

<400> 111

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Met Leu Ser Ala Leu Glu Ser Ile Leu Leu Ser Val Ala Thr Ser Glu
1               5                  10                  15

Ala Met Leu Gly Val Leu Gly Asn Thr Phe Ile Val Leu Val Asn Tyr
            20                  25                  30

Thr Asp Trp Val Arg Asn Lys Lys Leu Ser Lys Ile Asn Phe Ile Leu
        35                  40                  45

Thr Gly Leu Ala Ile Ser Arg Ile Phe Thr Ile Trp Ile Ile Thr Leu
    50                  55                  60

Asp Ala Tyr Thr Lys Val Phe Leu Leu Thr Met Leu Met Pro Ser Ser
65                  70                  75                  80

Leu His Glu Cys Met Ser Tyr Ile Trp Val Ile Ile Asn His Leu Ser
                85                  90                  95

Val Trp Phe Ser Thr Ser Leu Gly Ile Phe Tyr Phe Leu Lys Ile Ala
            100                 105                 110

Asn Phe Ser His Tyr Ile Phe Leu Trp Met Lys Arg Arg Ala Asp Lys
        115                 120                 125

Val Phe Val Phe Leu Ile Val Phe Leu Ile Ile Thr Trp Leu Ala Ser
    130                 135                 140

Phe Pro Leu Ala Val Lys Val Ile Lys Asp Val Lys Ile Tyr Gln Ser
145                 150                 155                 160

Asn Thr Ser Trp Leu Ile His Leu Glu Lys Ser Glu Leu Leu Ile Asn
                165                 170                 175
```

```
Tyr Val Phe Ala Asn Met Gly Pro Ile Ser Leu Phe Ile Val Ala Ile
            180                 185                 190

Ile Ala Cys Phe Leu Leu Thr Ile Ser Leu Trp Arg His Ser Arg Gln
        195                 200                 205

Met Gln Ser Ile Gly Ser Gly Phe Arg Asp Leu Asn Thr Glu Ala His
    210                 215                 220

Met Lys Ala Met Lys Val Leu Ile Ala Phe Ile Ile Leu Phe Ile Leu
225                 230                 235                 240

Tyr Phe Leu Gly Ile Leu Ile Glu Thr Leu Cys Leu Phe Leu Thr Asn
                245                 250                 255

Asn Lys Leu Leu Phe Ile Phe Gly Phe Thr Leu Ser Ala Met Tyr Pro
            260                 265                 270

Cys Cys His Ser Phe Ile Leu Ile Leu Thr Ser Arg Glu Leu Lys Gln
        275                 280                 285

Asp Thr Met Arg Ala Leu Gln Arg Leu Lys Cys Cys Glu Thr
    290                 295                 300
```

<210> 112
<211> 1529
<212> DNA
<213> Mus musculus

<400> 112

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ctgcagcagg taaatcacac cagatccagc agaagccttc ttggaaattg gcagagatgc     60

tgagtgcact ggaaagcatc ctcctttctg ttgccactag tgaagccatg ctgggagttt    120

tagggaacac atttattgta cttgtaaact acacagactg ggtcaggaat aagaaactct    180

ctaagattaa ctttattctc actggcttag caatttccag gatttttacc atatggataa    240

taactttaga tgcatataca aaggttttcc ttctgactat gcttatgccg agcagtctac    300

atgaatgcat gagttacata tgggtaatta ttaaccatct gagcgtttgg tttagcacca    360

gcctcggcat cttttatttt ctgaagatag caaatttttc ccactacata tttctctgga    420

tgaagagaag agctgataaa gtttttgtct ttctaattgt attcttaatt ataacgtggc    480

tagcttcctt tccgctagct gtgaaggtca ttaaagatgt taaaatatat cagagcaaca    540

catcctggct gatccacctg gagaagagtg agttacttat aaactatgtt tttgccaata    600

tggggcccat ttccctcttt attgtagcca taattgcttg tttcttgtta accatttccc    660

tttggagaca cagcaggcag atgcaatcca ttggatcagg attcagagat ctcaacacag    720

aagctcacat gaaagccatg aaagttttaa ttgcatttat catcctcttt atcttatatt    780

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caagcaggga gctgaagcaa gccactatga gggcactgca gagattaaaa tgctgtgaga 960

cttgacagag aaatgaatgt tctggcacag ttcagcaggg aatccctgga gccctttcca 1020

ttcccactat gttctcacac tgtctttagt tgaattgtta aaagtttttg aaacctttgg 1080

caactgattg actgcagcta cgccagtgta agattttcat agtaagagca aacattgaaa 1140

ataagacttc tcagtcttat ttcattgagt ttctaaagca ttgacaccca ttcaccagaa 1200

aaaccaaagg ggaagagagg agttttcaga catgtgtgat gaatcttgat atttaggaca 1260

tggaattgag gagccagagg gatgctaccg tgtgtctaca gctttgtttg ttaaatagct 1320

acttttcctt tcccagttag ttaaagtaga tgcttggagt agtggtgaaa atcatggcag 1380

tagatgggat ctgtgggaag tggttgagga agcaggctgt ttctgaacga agagaccaga 1440

ggactgattg aactggtcat tgtgtatatc aaaaatagtg atttcagatg aagccaagtt 1500

gtagagcaaa gatatctgag gaagaattc 1529

<210> 113
<211> 300
<212> PRT
<213> Mus musculus

<400> 113

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Met Leu Ser Ala Ala Glu Gly Ile Leu Leu Ser Ile Ala Thr Val Glu
1               5                  10                  15

Ala Gly Leu Gly Val Leu Gly Asn Thr Phe Ile Ala Leu Val Asn Cys
            20                  25                  30

Met Asp Trp Ala Lys Asn Asn Lys Leu Ser Met Thr Gly Phe Leu Leu
        35                  40                  45

Ile Gly Leu Ala Thr Ser Arg Ile Phe Ile Val Trp Leu Leu Thr Leu
    50                  55                  60

Asp Ala Tyr Ala Lys Leu Phe Tyr Pro Ser Lys Tyr Phe Ser Ser Ser
65                  70                  75                  80

Leu Ile Glu Ile Ile Ser Tyr Ile Trp Met Thr Val Asn His Leu Thr
                85                  90                  95

Val Trp Phe Ala Thr Ser Leu Ser Ile Phe Tyr Phe Leu Lys Ile Ala
            100                 105                 110

Asn Phe Ser Asp Cys Val Phe Leu Trp Leu Lys Arg Arg Thr Asp Lys
        115                 120                 125

Ala Phe Val Phe Leu Leu Gly Cys Leu Leu Thr Ser Trp Val Ile Ser
    130                 135                 140
```

```
Phe Ser Phe Val Val Lys Val Met Lys Asp Gly Lys Val Asn His Arg
145                 150                 155                 160

Asn Arg Thr Ser Glu Met Tyr Trp Glu Lys Arg Gln Phe Thr Ile Asn
                165                 170                 175

Tyr Val Phe Leu Asn Ile Gly Val Ile Ser Leu Phe Met Met Thr Leu
            180                 185                 190

Thr Ala Cys Phe Leu Leu Ile Met Ser Leu Trp Arg His Ser Arg Gln
        195                 200                 205

Met Gln Ser Gly Val Ser Gly Phe Arg Asp Leu Asn Thr Glu Ala His
    210                 215                 220

Val Lys Ala Ile Lys Phe Leu Ile Ser Phe Ile Ile Leu Phe Val Leu
225                 230                 235                 240

Tyr Phe Ile Gly Val Ser Ile Glu Ile Ile Cys Ile Phe Ile Pro Glu
                245                 250                 255

Asn Lys Leu Leu Phe Ile Phe Gly Phe Thr Thr Ala Ser Ile Tyr Pro
            260                 265                 270

Cys Cys His Ser Phe Ile Leu Ile Leu Ser Asn Ser Gln Leu Lys Gln
        275                 280                 285

Ala Phe Val Lys Val Leu Gln Gly Leu Lys Phe Phe
    290                 295                 300
```

<210> 114
<211> 903
<212> DNA
<213> Mus musculus

<400> 114

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atgctgagtg cggcagaagg catcctcctt tccattgcaa ctgttgaagc tgggctggga     60

gttttaggga acacatttat tgcactggta aactgcatgg actgggccaa gaacaataag    120

ctttctatga ctggcttcct tctcatcggc ttagcaactt ccaggatttt tattgtgtgg    180

ctattaactt tagatgcata tgcaaagcta ttctatccaa gtaagtattt ttctagtagt    240

ctgattgaaa tcatctctta tatatggatg actgtgaatc acctgactgt ctggtttgcc    300

accagcctaa gcatcttcta tttcctgaag atagccaatt tttccgactg tgtatttctc    360

tggttgaaga ggagaactga taaagctttt gtttttctct tggggtgttt gctaacttca    420

tgggtaatct ccttctcatt tgttgtgaag gtgatgaagg acggtaaagt gaatcataga    480

aacaggacct cggagatgta ctgggagaaa aggcaattca ctattaacta cgttttcctc    540

aatattggag tcatttctct ctttatgatg accttaactg catgtttctt gttaattatg    600
```

tcactttgga gacacagcag gcagatgcag tctggtgttt caggattcag agacctcaac 660

acagaagctc atgtgaaagc cataaaattt ttaatttcat ttatcatcct tttcgtcttg 720

tattttatag gtgtttcaat agaaattatc tgcatattta taccagaaaa caaactgcta 780

tttatttttg gtttcacaac tgcatccata tatccttgct gtcactcatt tattctaatt 840

ctatctaaca gccagctaaa gcaagccttt gtaaaggtac tgcaaggatt aaagttcttt 900

tag 903

<210> 115
<211> 308
<212> PRT
<213> Mus musculus

<400> 115

```
Met Leu Thr Val Ala Glu Gly Ile Leu Leu Cys Phe Val Thr Ser Gly
1               5                  10                  15

Ser Val Leu Gly Val Leu Gly Asn Gly Phe Ile Leu His Ala Asn Tyr
            20                  25                  30

Ile Asn Cys Val Arg Lys Lys Phe Ser Thr Ala Gly Phe Ile Leu Thr
        35                  40                  45

Gly Leu Ala Ile Cys Arg Ile Phe Val Ile Cys Ile Ile Ile Ser Asp
    50                  55                  60

Gly Tyr Leu Lys Leu Phe Ser Pro His Met Val Ala Ser Asp Ala His
65                  70                  75                  80

Ile Ile Val Ile Ser Tyr Ile Trp Val Ile Ile Asn His Thr Ser Ile
                85                  90                  95

Trp Phe Ala Thr Ser Leu Asn Leu Phe Tyr Leu Leu Lys Ile Ala Asn
            100                 105                 110

Phe Ser His Tyr Ile Phe Phe Cys Leu Lys Arg Arg Ile Asn Thr Val
        115                 120                 125

Phe Ile Phe Leu Leu Gly Cys Leu Phe Ile Ser Trp Ser Ile Ala Phe
    130                 135                 140

Pro Gln Thr Val Lys Ile Phe Asn Val Lys Lys Gln His Arg Asn Val
145                 150                 155                 160

Ser Trp Gln Val Tyr Leu Tyr Lys Asn Glu Phe Ile Val Ser His Ile
                165                 170                 175

Leu Leu Asn Leu Gly Val Ile Phe Phe Phe Met Val Ala Ile Ile Thr
            180                 185                 190

Cys Phe Leu Leu Ile Ile Ser Leu Trp Lys His Asn Arg Lys Met Gln
        195                 200                 205
```

```
Leu Tyr Ala Ser Arg Phe Lys Ser Leu Asn Thr Glu Val His Val Lys
    210                 215                 220

Val Met Lys Val Leu Ile Ser Phe Ile Ile Leu Leu Ile Leu His Phe
225                 230                 235                 240

Ile Gly Ile Leu Ile Glu Thr Leu Ser Phe Leu Lys Tyr Glu Asn Lys
                245                 250                 255

Leu Leu Leu Ile Leu Gly Leu Ile Ile Ser Cys Met Tyr Pro Cys Cys
            260                 265                 270

His Ser Phe Ile Leu Ile Leu Ala Asn Ser Gln Leu Lys Gln Ala Ser
        275                 280                 285

Leu Lys Ala Leu Lys Gln Leu Lys Cys His Lys Lys Asp Lys Asp Val
    290                 295                 300

Arg Val Thr Trp
305
```

<210> 116
<211> 1242
<212> DNA
<213> Mus musculus

<400> 116
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tcctcctttg ttttgtaact agtggttcag tcctgggagt tctaggaaat ggatttatcc 120

tgcatgcaaa ctacattaac tgtgtcagaa agaagttctc cacagctggc tttattctca 180

caggcttggc tatttgcaga atctttgtca tatgtataat aatctctgat ggatatttaa 240

aattgttttc tccacatatg gttgcctctg atgcccacat tatagtgatt tcttacatat 300

gggtaattat caatcataca agtatatggt ttgccaccag cctcaacctc ttctatctcc 360

tgaagatagc aaatttttct cactacatct tcttctgctt gaagagaaga atcaatacag 420

tatttatctt tctcctggga tgcttattta tatcatggtc aattgctttc ccacaaacag 480

tgaagatatt taatgttaaa aagcagcaca gaaatgtttc ctggcaggtt tacctctata 540

agaatgagtt cattgtaagc cacattcttc tcaacctggg agttatattc ttctttatgg 600

tggctatcat tacatgcttc ctattaatta tttcactttg gaaacataac agaaagatgc 660

agttgtatgc ctcaagattc aaaagcctta acacagaagt acatgtgaaa gtcatgaaag 720

ttttaatttc ttttattatc ctgttaatct tgcatttcat agggattttg atagaaacat 780

tgagcttttt aaaatatgaa aataaactgc tacttatttt gggtttgata atttcatgca 840

tgtatccttg ctgtcattca tttatcctaa ttctagcaaa cagtcagctg aagcaggctt 900

ctttgaaggc actgaagcaa ttaaaatgcc ataagaaaga caaggacgtc agagtgacat 960

ggtagactta tggagaaatg aatggtcaca agaaatagcc tggtgtggag atgttgatat 1020

ctctaaagac cgtttcactt ccaaattctt gcaattattt aaaaaaaaaa gtcttgctga 1080

tatcatggaa tcatgggaaa tgttgcaatt gtgttttggg gacagggtga ccagtgaagg 1140

tatggttaag cagcgaaaca ctcatacagc tcgttcgttc tttttgtatt ttattttgtg 1200

ttggtggcct tccaagacat gatttctcta tgtaagtttt gg 1242

<210> 117
<211> 308
<212> PRT
<213> Mus musculus

<400> 117

```
Met Leu Asn Ser Ala Glu Gly Ile Leu Leu Cys Val Val Thr Ser Glu
1               5                  10                  15

Ala Val Leu Gly Val Leu Gly Asp Thr Tyr Ile Ala Leu Phe Asn Cys
            20                  25                  30

Met Asp Tyr Ala Lys Asn Lys Lys Leu Ser Lys Ile Gly Phe Ile Leu
        35                  40                  45

Ile Gly Leu Ala Ile Ser Arg Ile Gly Val Val Trp Ile Ile Ile Leu
    50                  55                  60

Gln Gly Tyr Ile Gln Val Phe Phe Pro His Met Leu Thr Ser Gly Asn
65                  70                  75                  80

Ile Thr Glu Tyr Ile Thr Tyr Ile Trp Val Phe Leu Asn His Leu Ser
                85                  90                  95

Val Trp Phe Val Thr Asn Leu Asn Ile Leu Tyr Phe Leu Lys Ile Ala
            100                 105                 110

Asn Phe Ser Asn Ser Val Phe Leu Trp Leu Lys Arg Arg Val Asn Ala
        115                 120                 125

Val Phe Ile Phe Leu Ser Gly Cys Leu Leu Thr Ser Trp Leu Leu Cys
    130                 135                 140

Phe Pro Gln Met Thr Lys Ile Leu Gln Asn Ser Lys Met His Gln Arg
145                 150                 155                 160

Asn Thr Ser Trp Val His Gln Arg Lys Asn Tyr Phe Leu Ile Asn Gln
                165                 170                 175

Ser Val Thr Asn Leu Gly Ile Phe Phe Phe Ile Ile Val Ser Leu Ile
            180                 185                 190

Thr Cys Phe Leu Leu Ile Val Phe Leu Trp Arg His Val Arg Gln Met
        195                 200                 205
```

```
His Ser Asp Val Ser Gly Phe Arg Asp His Ser Thr Lys Val His Val
    210                 215                 220

Lys Ala Met Lys Phe Leu Ile Ser Phe Met Val Phe Phe Ile Leu His
225                 230                 235                 240

Phe Val Gly Leu Ser Ile Glu Val Leu Cys Phe Ile Leu Pro Gln Asn
                245                 250                 255

Lys Leu Leu Phe Ile Thr Gly Leu Thr Ala Thr Cys Leu Tyr Pro Cys
            260                 265                 270

Gly His Ser Ile Ile Val Ile Leu Gly Asn Lys Gln Leu Lys Gln Ala
        275                 280                 285

Ser Leu Lys Ala Leu Gln Gln Leu Lys Cys Cys Glu Thr Lys Gly Asn
    290                 295                 300

Phe Arg Val Lys
305
```

<210> 118
<211> 1754
<212> DNA
<213> Mus musculus

<400> 118
ttcataatga agaggaggca gggcaatgtt ggtttctgtt gtctgaccag tgtatttgac 60

agtgatacta cacatttgat tgctaaatgc aaatagttcc aaaggaacaa gtaaatttta 120

tgaaatagaa gcttctattt gcttattaac aaactgcaag caaacattag tctgcacaca 180

ttttatagac aagctaaatc ttcaaaagca ataaaaaaga gcacccataa agttctgact 240

ctatcacatg acaataggct tgaaaagatt gtctatgtag ataaagaaga tggcataact 300

tctccatcaa gaagccagta tatgggacat tctccagcag ataatttaca atagatgcag 360

cagaagtaac cttagagatc tgtaaagatg ctgaattcag cagaaggcat cctcctttgt 420

gttgtcacta gtgaggctgt gctcggagtt ttaggggaca catatattgc acttttaac 480

tgcatggact atgctaagaa caagaagctc tctaagatcg gtttcattct cattggcttg 540

gcgatttcca gaattggtgt tgtatggata ataattttac aagggtatat acaagtattt 600

tttccacaca tgcttacctc tggaaacata actgaatata ttacttacat atgggtattt 660

ctcaatcact taagtgtctg gtttgtcacc aacctcaaca tcctctactt tctaaagata 720

gctaattttt ccaactctgt atttctctgg ctgaaaagga gagtcaatgc agtttttatc 780

tttctgtcag gatgcttact tacctcatgg ttactatgtt ttccacaaat gacaaagata 840

cttcaaaata gtaaaatgca ccagagaaac acatcttggg tccaccagcg gaaaaattac 900

tttcttatta accaaagtgt gaccaatctg ggaatctttt tcttcattat tgtatccctg 960

attacctgct ttctgttgat tgttttcctc tggagacatg tcagacaaat gcactcagat 1020

gtttcaggat tcagagacca cagcacaaaa gtacatgtga aagctatgaa atttctaata 1080

tcttttatgg tcttctttat tctgcatttt gtaggccttt ccatagaagt gctatgcttt 1140

attctgccac aaaataaact gctctttata actggtttga cagccacatg cctctatccc 1200

tgcggtcact caatcatcgt aattttagga aataagcagt taaagcaagc ctctttgaag 1260

gcactgcagc aactaaaatg ctgtgagaca aaaggaaatt tcagagtcaa ataaatgggt 1320

ttgcaaataa atagctgcct tgttcttcca ctggttttta ccctgttagt tgatgttatg 1380

aaaagttcct gctatggttg atgacatctc aaggaatcta tttttctggt ggcatgttaa 1440

gtccacgtga agcctcactt catactgtga cttgactatg caaattcttt ccacaaaata 1500

accagataac attcagcctg gagataaatt catttaaagg cttttatggt gaggataaac 1560

aaaaaaaaaa aatcattttt ctgtgattca ctgtaactcc caggatgagt aaaagaaaac 1620

aagacaaatg gttgtgatca gcctttgtgt gtctagacag agctagggac cagatgttga 1680

tgcttgtgtg tggttttgag ttctttaaga agttattgcc tctctgccat tcggtattcc 1740

tcaggtgaga attc 1754

<210> 119
<211> 297
<212> PRT
<213> Mus musculus

<400> 119

```
Met Leu Trp Glu Leu Tyr Val Phe Val Phe Ala Ala Ser Val Phe Leu
1               5                  10                  15

Asn Phe Val Gly Ile Ile Ala Asn Leu Phe Ile Ile Val Ile Ile Ile
            20                  25                  30

Lys Thr Trp Val Asn Ser Arg Arg Ile Ala Ser Pro Asp Arg Ile Leu
        35                  40                  45

Phe Ser Leu Ala Ile Thr Arg Phe Leu Thr Leu Gly Leu Phe Leu Leu
    50                  55                  60

Asn Ser Val Tyr Ile Ala Thr Asn Thr Gly Arg Ser Val Tyr Phe Ser
65                  70                  75                  80

Thr Phe Phe Leu Leu Cys Trp Lys Phe Leu Asp Ala Asn Ser Leu Trp
                85                  90                  95

Leu Val Thr Ile Leu Asn Ser Leu Tyr Cys Val Lys Ile Thr Asn Phe
            100                 105                 110
```

```
Gln His Pro Val Phe Leu Leu Leu Lys Arg Thr Ile Ser Met Lys Thr
        115                 120                 125

Thr Ser Leu Leu Leu Ala Cys Leu Leu Ile Ser Ala Leu Thr Thr Leu
    130                 135                 140

Leu Tyr Tyr Met Leu Ser Gln Ile Ser Arg Phe Pro Glu His Ile Ile
145                 150                 155                 160

Gly Arg Asn Asp Thr Ser Phe Asp Leu Ser Asp Gly Ile Leu Thr Leu
                165                 170                 175

Val Ala Ser Leu Val Leu Asn Ser Leu Leu Gln Phe Met Leu Asn Val
            180                 185                 190

Thr Phe Ala Ser Leu Leu Ile His Ser Leu Arg Arg His Ile Gln Lys
        195                 200                 205

Met Gln Arg Asn Arg Thr Ser Phe Trp Asn Pro Gln Thr Glu Ala His
    210                 215                 220

Met Gly Ala Met Arg Leu Met Ile Cys Phe Leu Val Leu Tyr Ile Pro
225                 230                 235                 240

Tyr Ser Ile Ala Thr Leu Leu Tyr Leu Pro Ser Tyr Met Arg Lys Asn
                245                 250                 255

Leu Arg Ala Gln Ala Ile Cys Met Ile Ile Thr Ala Ala Tyr Pro Pro
            260                 265                 270

Gly His Ser Val Leu Leu Ile Ile Thr His His Lys Leu Lys Ala Lys
        275                 280                 285

Ala Lys Lys Ile Phe Cys Phe Tyr Lys
    290                 295
```

<210> 120
<211> 1475
<212> DNA
<213> Mus musculus

<400> 120

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aagcttgttt gtaattaggc attcctaaga aaataagaac aggagtgaag aaatagtaat     60

ttaatccttg aaagatttgc atctcagtaa aagcagctgc ctcttagacc agaaatggtg    120

tttgccatgc tggaaaataa aaaggagacc tctttccagg ctgcatcctg tgtctgctta    180

cttatttcag tttgttttca tcggcaccaa acgaggaaag atgctctggg aactgtatgt    240

atttgtgttt gctgcctcgg ttttttaaa ttttgtagga atcattgcaa atctatttat    300

tatagtgata attattaaga cttgggtcaa cagtcgcaga attgcctctc cggataggat    360

cctgttcagc ttggccatca ctagattcct gactttgggg ttgtttctac tgaacagtgt    420

ctacattgct acaaatactg gaaggtcagt ctacttttcc acatttttc tattgtgttg    480
```

gaagtttctg gatgcaaaca gtctctggtt agtgaccatt ctgaacagct tgtattgtgt 540

gaagattact aattttcaac acccagtgtt tctcctgttg aaacggacta tctctatgaa 600

gaccaccagc ctgctgttgg cctgtcttct gatttcagcc ctcaccactc tcctatatta 660

tatgctctca cagatatcac gttttcctga acacataatt gggagaaatg acacgtcatt 720

tgacctcagt gatggtatct tgacgttagt agcctctttg gtcctgaact cacttctaca 780

gtttatgctc aatgtgactt ttgcttcctt gttaatacat tccttgagaa gacatataca 840

gaagatgcag agaaacagga ccagcttttg gaatccccag acggaggctc acatgggtgc 900

tatgaggctg atgatctgtt tcctcgtgct ctacattcca tattcaattg ctaccctgct 960

ctatcttcct tcctatatga ggaagaatct gagagcccag gccatttgca tgattattac 1020

tgctgcttac cctccaggac attctgtcct cctcattatc acacatcata aactgaaagc 1080

taaagcaaag aagattttct gtttctacaa gtagcagaat ttcattagta gttaacagca 1140

tcaattcatg gtttggttgc attagaaatg tctcagtgat ctaaggactt aattttgtga 1200

tcttgtatct ggcatcctga ccctgagact aagtgcttat attttggtca atacagcatc 1260

ttttggctaa tattttaaag taaatcacat tccataagaa attgtttaag ggatttacgt 1320

atttttcatg gctatcacat tcctagacaa tggaaatcac catactgttt cgctagctac 1380

tgaagtacca ggggaaagtc catgaatgaa ggccacattg tgatgttctt ggttagcaca 1440

gattagagaa tttggcctca actgagcaag atatc 1475

<210> 121
<211> 316
<212> PRT
<213> Mus musculus

<400> 121

```
Met Glu His Leu Leu Lys Arg Thr Phe Asp Ile Thr Glu Asn Ile Leu
1               5                  10                  15

Leu Ile Ile Leu Phe Ile Glu Leu Ile Ile Gly Leu Ile Gly Asn Gly
            20                  25                  30

Phe Thr Ala Leu Val His Cys Met Asp Trp Val Lys Arg Lys Lys Met
        35                  40                  45

Ser Leu Val Asn Lys Ile Leu Thr Ala Leu Ala Thr Ser Arg Ile Phe
    50                  55                  60

Leu Leu Trp Phe Met Leu Val Gly Phe Pro Ile Ser Ser Leu Tyr Pro
65                  70                  75                  80
```

```
Tyr Leu Val Thr Thr Arg Leu Met Ile Gln Phe Thr Ser Thr Leu Trp
                85                  90                  95

Thr Ile Ala Asn His Ile Ser Val Trp Phe Ala Thr Cys Leu Ser Val
            100                 105                 110

Phe Tyr Phe Leu Lys Ile Ala Asn Phe Ser Asn Ser Pro Phe Leu Tyr
        115                 120                 125

Leu Lys Arg Arg Val Glu Lys Val Val Ser Val Thr Leu Leu Val Ser
    130                 135                 140

Leu Val Leu Leu Phe Leu Asn Ile Leu Leu Leu Asn Leu Glu Ile Asn
145                 150                 155                 160

Met Cys Ile Asn Glu Tyr His Gln Ile Asn Ile Ser Tyr Ile Phe Ile
                165                 170                 175

Ser Tyr Tyr His Leu Ser Cys Gln Ile Gln Val Leu Gly Ser His Ile
            180                 185                 190

Ile Phe Leu Ser Val Pro Val Val Leu Ser Leu Ser Thr Phe Leu Leu
        195                 200                 205

Leu Ile Phe Ser Leu Trp Thr Leu His Lys Arg Met Gln Gln His Val
    210                 215                 220

Gln Gly Gly Arg Asp Ala Arg Thr Thr Ala His Phe Lys Ala Leu Gln
225                 230                 235                 240

Ala Val Ile Ala Phe Leu Leu Leu Tyr Ser Ile Phe Ile Leu Ser Leu
                245                 250                 255

Leu Leu Gln Phe Trp Ile His Gly Leu Arg Lys Lys Pro Pro Phe Ile
            260                 265                 270

Ala Phe Cys Gln Val Val Asp Thr Ala Phe Pro Ser Phe His Ser Tyr
        275                 280                 285

Val Leu Ile Leu Arg Asp Arg Lys Leu Arg His Ala Ser Leu Ser Val
    290                 295                 300

Leu Ser Trp Leu Lys Cys Arg Pro Asn Tyr Val Lys
305                 310                 315


<210> 122
<211> 1339
<212> DNA
<213> Mus musculus

<400> 122
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atacatttgc aaatctttac aactaataca taaaatggag catcttttga agagaacatt    120

tgatatcacc gagaacatac ttctaattat tttattcatt gaattaataa ttggacttat    180
```

aggaaacgga ttcacagcct tggtgcactg catggactgg gttaagagaa aaaaaatgtc 240

attagttaat aaaatcctca ccgctttggc aacttctaga attttcctgc tctggttcat 300

gctagtaggt tttccaatta gctcactgta cccatattta gttactacta gactgatgat 360

acagttcact agtactctat ggactatagc taaccatatt agtgtctggt ttgctacatg 420

cctcagtgtc ttttattttc tcaagatagc caatttttct aattctcctt ttctctatct 480

aaagaggaga gttgaaaaag tagtttcagt tacattactg gtgtctctgg tcctcttgtt 540

tttaaatatt ttactactta atttggaaat taacatgtgt ataaatgaat atcatcaaat 600

aaacatatca tacatcttca tttcttatta ccatttaagt tgtcaaattc aggtgttagg 660

aagtcacatt attttcctgt ctgtccccgt tgttttgtcc ctgtcaactt ttctcctgct 720

catcttctcc ctgtggacac ttcacaagag gatgcagcag catgttcagg gaggcagaga 780

tgccagaacc acggcccact tcaaagcctt gcaagcagtg attgcctttc tcctactata 840

ctccattttt atcctgtcac tgttactaca attttggatc catggattaa ggaagaaacc 900

tcctttcatt gcattttgtc aggttgtaga tacagctttt ccttcattcc attcatatgt 960

cttgattctg agagacagga agctgagaca cgcctctctc tctgtgttgt cgtggctgaa 1020

atgcaggcca aattatgtga aataatattt ctttgtattt tcattttcaa ttttaaaata 1080

ttcttagaat ttgactgcat gtatttcatc ttttatttga aacaaccact aattaaagct 1140

attactaatt tagcaagtcg tatacaaggt tatttttaa tacacatatc aaaaactgac 1200

atgtttatgt tctacaaaaa cctgaatata tcaaaattat ataaattttg tatcaacgat 1260

taacaatgga gtttttttat ttatgacctg tcacgggact ccggtggagt cagcttgtca 1320

gatgaaagtc tgaaagctt 1339

<210> 123
<211> 333
<212> PRT
<213> Mus musculus

<400> 123

Met Phe Ser Gln Ile Ile Ser Thr Ser Asp Ile Phe Thr Phe Thr Ile
1 5 10 15

Ile Leu Phe Val Glu Leu Val Ile Gly Ile Leu Gly Asn Gly Phe Ile
20 25 30

Ala Leu Val Asn Ile Met Asp Trp Thr Lys Arg Arg Ser Ile Ser Ser
35 40 45

Ala Asp Gln Ile Leu Thr Ala Leu Ala Ile Thr Arg Phe Leu Tyr Val
50 55 60

```
Trp Phe Met Ile Ile Cys Ile Leu Leu Phe Met Leu Cys Pro His Leu
65                  70                  75                  80

Leu Thr Arg Ser Glu Ile Val Thr Ser Ile Gly Ile Ile Trp Ile Val
                85                  90                  95

Asn Asn His Phe Ser Val Trp Leu Ala Thr Cys Leu Gly Val Phe Tyr
            100                 105                 110

Phe Leu Lys Ile Ala Asn Phe Ser Asn Ser Leu Phe Leu Tyr Leu Lys
        115                 120                 125

Trp Arg Val Lys Lys Val Val Leu Met Ile Ile Gln Val Ser Met Ile
    130                 135                 140

Phe Leu Ile Leu Asn Leu Leu Ser Leu Ser Met Tyr Asp Gln Phe Ser
145                 150                 155                 160

Ile Asp Val Tyr Glu Gly Asn Thr Ser Tyr Asn Leu Gly Asp Ser Thr
                165                 170                 175

Pro Phe Pro Thr Ile Ser Leu Phe Ile Asn Ser Ser Lys Val Phe Val
            180                 185                 190

Ile Thr Asn Ser Ser His Ile Phe Leu Pro Ile Asn Ser Leu Phe Met
        195                 200                 205

Leu Ile Pro Phe Thr Val Ser Leu Val Ala Phe Leu Met Leu Ile Phe
    210                 215                 220

Ser Leu Trp Lys His His Lys Lys Met Gln Val Asn Ala Lys Pro Pro
225                 230                 235                 240

Arg Asp Ala Ser Thr Met Ala His Ile Lys Ala Leu Gln Thr Gly Phe
                245                 250                 255

Ser Phe Leu Leu Leu Tyr Ala Val Tyr Leu Leu Phe Ile Val Ile Gly
            260                 265                 270

Met Leu Ser Leu Arg Leu Ile Gly Gly Lys Leu Ile Leu Leu Phe Asp
        275                 280                 285

His Ile Ser Gly Ile Gly Phe Pro Ile Ser His Ser Phe Val Leu Ile
    290                 295                 300

Leu Gly Asn Asn Lys Leu Arg Gln Ala Ser Leu Ser Val Leu His Cys
305                 310                 315                 320

Leu Arg Cys Arg Ser Lys Asp Met Asp Thr Met Gly Pro
                325                 330
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<210> 124
<211> 1371
<212> DNA
<213> Mus musculus

<400> 124
gaattcaaca tcttattcaa cttcagaaaa ctggatatta gacacagtgt ctggatgaag 60

cagaggtgat ctctttggga aaaaaagcca agtagtcata aagaatttat gaaacaattc 120

ctgggattgt ttatatttgt tacaaacaaa tttatatgtt tgttagtcag taatgtataa 180

gtgggatttt aaagcatgat tatcttgaat ttttaacaaa aaacatgtag tgctttttaa 240

atgtagcaga aacattaaaa attgaagcat gttctcacag ataataagca ccagtgatat 300

ttttactttt acaataatat tatttgtgga attagtaata ggaattttag gaaatggatt 360

catagcacta gtgaatatca tggactggac caagagaaga agcatttcat cagcggatca 420

gattctcact gctttggcca ttaccagatt tctctatgtg tggtttatga tcatttgtat 480

attgttattc atgctgtgcc cacatttgct tacaagatca gaaatagtaa catcaattgg 540

tattatttgg atagtgaata accatttcag cgtttggctt gccacatgcc tcggtgtctt 600

ttatttttctg aagatagcca atttttctaa ctctttgttt ctttacctaa agtggagagt 660

taaaaaagta gttttaatga taatacaggt atcaatgatt ttcttgattt taaacctgtt 720

atctctaagc atgtatgatc agttctcaat tgatgtttat gaaggaaata catcttataa 780

tttaggggat tcaaccccat ttcccacaat ttccttattc atcaattcat caaaagtttt 840

cgtaatcacc aactcatccc atattttctt acccatcaac tccctgttca tgctcatacc 900

cttcacagtg tccctggtag cctttctcat gctcatcttc tcactgtgga agcatcacaa 960

aaagatgcag gtcaatgcca aaccacctag agatgccagc accatggccc acattaaagc 1020

cttgcaaaca gggttctcct tcctgctgct gtatgcagta tacttacttt ttattgtcat 1080

aggaatgttg agccttaggt tgataggagg aaaattaata cttttatttg accacatttc 1140

tggaataggt tttcctataa gccactcatt tgtgctgatt ctgggaaata acaagctgag 1200

acaagccagt ctttcagtgt tgcattgtct gaggtgccga tccaaagata tggacaccat 1260

gggtccataa aaaatttcag aggtcattgg gaaacatttt gagatcttat aggggaaaaa 1320

gaaaatgtgg ggcttcaaag ctggtaggag taatatagag aaggatagga g 1371

<210> 125
<211> 303
<212> PRT
<213> Mus musculus

<220>
<221> MOD_RES
<222> (169)..(169)
<223> Variable amino acid

<400> 125

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Met Glu His Pro Leu Arg Arg Thr Phe Asp Phe Ser Gln Ser Ile Leu
1               5                  10                  15

Leu Thr Ile Leu Phe Ile Glu Leu Ile Ile Gly Leu Ile Arg Asn Gly
            20                  25                  30

Leu Met Val Leu Val His Cys Ile Asp Trp Val Lys Arg Lys Lys Phe
        35                  40                  45

His Leu Leu Ile Lys Ser Ser Pro Leu Trp Gln Thr Ser Arg Ile Cys
    50                  55                  60

Leu Leu Trp Phe Met Leu Ile His Leu Leu Ile Thr Leu Leu Tyr Ala
65                  70                  75                  80

Asp Leu Ala Ser Thr Arg Thr Met Met Gln Phe Ala Ser Asn Pro Trp
                85                  90                  95

Thr Ile Ser Asn His Ile Ser Ile Trp Leu Ala Thr Cys Leu Gly Val
            100                 105                 110

Phe Tyr Phe Leu Lys Ile Ala Asn Phe Ser Asn Ser Thr Phe Leu Tyr
        115                 120                 125

Leu Lys Trp Arg Val Gln Phe Leu Leu Leu Asn Ile Leu Leu Val Lys
    130                 135                 140

Phe Glu Ile Asn Met Trp Ile Asn Glu Tyr His Gln Ile Asn Ile Pro
145                 150                 155                 160

Tyr Ser Phe Ile Ser Tyr Tyr Gln Xaa Cys Gln Ile Gln Val Leu Ser
                165                 170                 175

Leu His Ile Ile Phe Leu Ser Val Pro Phe Ile Leu Ser Leu Ser Thr
            180                 185                 190

Phe Leu Leu Leu Ile Phe Ser Leu Trp Thr Leu His Gln Arg Met Gln
        195                 200                 205

Gln His Val Gln Gly Tyr Arg Asp Ala Ser Thr Met Ala His Phe Lys
    210                 215                 220

Ala Leu Gln Ala Val Ile Ala Phe Leu Leu Ile His Ser Ile Phe Ile
225                 230                 235                 240

Leu Ser Leu Leu Leu Gln Leu Trp Lys His Glu Leu Arg Lys Lys Pro
                245                 250                 255

Pro Phe Val Val Phe Cys Gln Val Ala Tyr Ile Ala Phe Pro Ser Ser
            260                 265                 270

His Ser Tyr Val Phe Ile Leu Gly Asp Arg Lys Leu Arg Gln Ala Cys
        275                 280                 285

Leu Ser Val Leu Trp Arg Leu Lys Cys Arg Pro Asn Tyr Val Gly
    290                 295                 300
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<210> 126
<211> 1108
<212> DNA
<213> Mus musculus

<400> 126
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aaaaatcttt aaaactgcat gttaaaaatc acacttcaaa tgaatatatt tgtaattctt 120

tagaactaat aaataaaatg gagcatcctt tgaggagaac atttgatttc tcccagagca 180

tacttctaac cattttattc attgaattaa taattggact tataagaaat ggattaatgg 240

tattggtgca ctgcatagat tgggttaaga gaaaaaaatt tcatttgtta atcaaatcct 300

caccactttg gcaaacttcc agaatttgtc tgctctggtt catgctaata catctcctga 360

ttactttatt gtatgcagat ttagctagta ctagaacgat gatgcaattc gctagcaatc 420

catggactat atctaaccat atcagcatct ggcttgctac atgccttggt gtcttttatt 480

ttctcaagat agccaatttt tctaactcta cttttctcta tctaaaatgg cgagttcagt 540

tcctcttgtt aaatatttta ctggttaaat ttgagattaa catgtggata aatgaatatc 600

atcaaataaa cataccatac agcttcattt cttattacca aattgtcaaa tacaggtgtt 660

aagtcttcac attattttcc tgtctgtccc ctttattttg tccctgtcaa cttttctcct 720

gctcatcttc tccctgtgga cacttcacca gaggatgcag cagcatgttc aaggatacag 780

agatgccagc acaatggccc acttcaaagc cttgcaagca gtgattgcct ttctcttaat 840

acactccatt tttatcctgt cactgttact acaactttgg aaacatgaat taaggaagaa 900

acctcctttt gttgtatttt gtcaggttgc atatatagct tttccttcat cccattcata 960

tgtcttcatt ctgggagaca gaaagctgag acaggcttgt ctctctgtgt tgtggaggct 1020

gaaatgcagg ccaaattatg tgggataaaa tctctttgtg ctttcatttc caattcttaa 1080

atattctttg attttgactg cataaatt 1108

<210> 127
<211> 150
<212> PRT
<213> Mus musculus

<400> 127
Gly Ala Ile Val Asn Val Asp Phe Leu Ile Gly Asn Val Gly Asn Gly
1 5 10 15

Phe Ile Val Val Ala Asn Ile Met Asp Leu Val Lys Arg Arg Lys Leu
20 25 30

```
Ser Ser Val Asp Gln Leu Leu Thr Ala Leu Ala Val Ser Arg Ile Thr
        35                  40                  45

Leu Leu Trp Tyr Leu Tyr Ile Met Lys Arg Thr Phe Leu Val Asp Pro
    50                  55                  60

Asn Ile Gly Ala Ile Met Gln Ser Thr Arg Leu Thr Asn Val Ile Trp
65                  70                  75                  80

Ile Ile Ser Asn His Phe Ser Ile Trp Leu Ala Thr Thr Leu Ser Ile
                85                  90                  95

Phe Tyr Phe Leu Lys Ile Ala Asn Phe Ser Asn Ser Ile Phe Cys Tyr
            100                 105                 110

Leu Arg Trp Arg Phe Glu Lys Val Ile Leu Met Ala Leu Leu Val Ser
        115                 120                 125

Leu Val Leu Leu Phe Ile Asp Ile Leu Val Thr Asn Met Tyr Ile Asn
    130                 135                 140

Ile Trp Thr Asp Glu Phe
145                 150
```

<210> 128
<211> 520
<212> DNA
<213> Mus musculus

<400> 128

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tagttaatgt ggagcaatag ttaatgtgga tttcctaatt ggaaatgttg ggaatggatt    120

cattgttgtg gcaaacataa tggacttggt caagagaaga aagctttctt cagtggatca    180

gctgctcact gcactggccg tctccagaat cactttgctg tggtacctgt acataatgaa    240

acgaacattt ttagtggatc caaacattgg tgcaattatg caatcaacaa gactgactaa    300

tgttatctgg ataatttcta accattttag tatatggctg gccaccaccc tcagcatctt    360

ttattttctc aagatagcaa atttttctaa ctctattttc tgttacctga ggtggagatt    420

tgaaaaggtg attttgatgg cattgctggt gtccctggtc ctcttgttta tagatatttt    480

agtaacaaac atgtacatta atatttggac tgatgaattc                          520
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<210> 129
<211> 309
<212> PRT
<213> Mus musculus

<400> 129

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Met Val Ala Val Leu Gln Ser Thr Leu Pro Ile Ile Phe Ser Met Glu
1               5                   10                  15
```

```
Phe Ile Met Gly Thr Leu Gly Asn Gly Phe Ile Phe Leu Ile Val Cys
            20                  25                  30

Ile Asp Trp Val Gln Arg Arg Lys Ile Ser Leu Val Asp Gln Ile Arg
        35                  40                  45

Thr Ala Leu Ala Ile Ser Arg Ile Ala Leu Ile Trp Leu Ile Phe Leu
    50                  55                  60

Asp Trp Trp Val Ser Val His Tyr Pro Ala Leu His Glu Thr Gly Lys
65                  70                  75                  80

Met Leu Ser Thr Tyr Leu Ile Ser Trp Thr Val Ile Asn His Cys Asn
                85                  90                  95

Phe Trp Leu Thr Ala Asn Leu Ser Ile Leu Tyr Phe Leu Lys Ile Ala
            100                 105                 110

Asn Phe Ser Asn Ile Ile Phe Leu Tyr Leu Lys Phe Arg Ser Lys Asn
        115                 120                 125

Val Val Leu Val Thr Leu Leu Val Ser Leu Phe Phe Leu Phe Leu Asn
    130                 135                 140

Thr Val Ile Ile Lys Ile Phe Ser Asp Val Cys Phe Asp Ser Val Gln
145                 150                 155                 160

Arg Asn Val Ser Gln Ile Phe Ile Met Tyr Asn His Glu Gln Ile Cys
                165                 170                 175

Lys Phe Leu Ser Phe Thr Asn Pro Met Phe Thr Phe Ile Pro Phe Val
            180                 185                 190

Met Ser Thr Val Met Phe Ser Leu Leu Ile Phe Ser Leu Trp Arg His
        195                 200                 205

Leu Lys Asn Met Gln His Thr Ala Lys Gly Cys Arg Asp Ile Ser Thr
    210                 215                 220

Thr Val His Ile Arg Ala Leu Gln Thr Ile Ile Val Ser Val Val Leu
225                 230                 235                 240

Tyr Thr Ile Phe Phe Leu Ser Phe Phe Val Lys Val Trp Ser Phe Val
                245                 250                 255

Ser Pro Glu Arg Tyr Leu Ile Phe Leu Phe Val Trp Ala Leu Gly Asn
            260                 265                 270

Ala Val Phe Ser Ala His Pro Phe Val Met Ile Leu Val Asn Arg Arg
        275                 280                 285

Leu Arg Leu Ala Ser Leu Ser Leu Ile Phe Trp Leu Trp Tyr Arg Phe
    290                 295                 300

Lys Asn Ile Glu Val
305
```

<210> 130
<211> 1199
<212> DNA
<213> Mus musculus

<400> 130
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atcattaaga aatcttgata gttgtttgtg agatatcact tctgcaattt ttaaatgaaa 120

ttacactcat attttgaagg aacaatatgt tttaaaggaa tatattaaca aatcttcagc 180

agttacctca gaagtttggg tattgtttta cagaaaatgg tggcagttct acagagcaca 240

cttccaataa ttttcagtat ggaattcata atgggaacct taggaaatgg attcattttt 300

ctgatagtct gcatagactg ggtccaaaga agaaaaatct ctttagtgga tcaaatccgc 360

actgctctgg caattagcag aatcgctcta atttggttga tattcctaga ttggtgggtg 420

tctgttcatt acccagcatt acatgaaact ggtaagatgt tatcaacata tttgatttcc 480

tggacggtga tcaatcattg taacttttgg cttactgcaa acttgagcat cctttatttt 540

ctcaagatag ccaacttttc taacattatt tttctttatc taaagtttag atctaaaaat 600

gtggtattag tgaccctgtt agtgtctcta tttttcttgt tcttaaatac tgtaattata 660

aaaatatttt ctgatgtgtg ttttgatagt gttcaaagaa atgtgtctca aattttcata 720

atgtataacc atgaacaaat ttgtaaattt ctttccttta ctaaccctat gttcacattc 780

ataccttttg ttatgtccac ggtaatgttt tctttgctca tcttctccct gtggagacat 840

ctgaagaata tgcagcacac cgccaaagga tgcagagaca tcagcaccac agtgcacatc 900

agagccctgc aaaccatcat tgtgtctgta gtgctataca ctatttttt tctatcattt 960

tttgttaaag tttggagttt tgtgtcacca gagagatacc tgatcttttt gtttgtctgg 1020

gctctgggaa atgctgtttt ttctgctcac ccatttgtca tgattttggt aaacagaaga 1080

ttgagattgg cttctctctc tctgattttt tggctctggt acaggtttaa aaatatagaa 1140

gtatagggtc caaagaccac caaggaatca ttttccttat cctaaagaaa aatcaggag 1199

<210> 131
<211> 309
<212> PRT
<213> Mus musculus

<400> 131
Met Leu Ser Thr Met Glu Gly Val Leu Leu Ser Val Ser Thr Ser Glu
1 5 10 15

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Ala Val Leu Gly Ile Val Gly Asn Thr Phe Ile Ala Leu Val Asn Cys
            20                  25                  30

Met Asp Tyr Asn Arg Asn Lys Lys Leu Ser Asn Ile Gly Phe Ile Leu
        35                  40                  45

Thr Gly Leu Ala Ile Ser Arg Ile Cys Leu Val Leu Ile Leu Ile Thr
    50                  55                  60

Glu Ala Tyr Ile Lys Ile Phe Tyr Pro Gln Leu Leu Ser Pro Val Asn
65                  70                  75                  80

Ile Ile Glu Leu Ile Ser Tyr Leu Trp Ile Ile Ile Cys Gln Leu Asn
                85                  90                  95

Val Trp Phe Ala Thr Ser Leu Ser Ile Phe Tyr Phe Leu Lys Ile Ala
            100                 105                 110

Asn Phe Ser His Tyr Ile Phe Val Trp Leu Lys Arg Arg Ile Asp Leu
        115                 120                 125

Val Phe Phe Phe Leu Ile Gly Cys Leu Leu Ile Ser Trp Leu Phe Ser
    130                 135                 140

Phe Pro Val Val Ala Lys Met Val Lys Asp Asn Lys Met Leu Tyr Ile
145                 150                 155                 160

Asn Thr Ser Trp Gln Ile His Met Lys Lys Ser Glu Leu Ile Ile Asn
                165                 170                 175

Tyr Val Phe Thr Asn Gly Gly Val Phe Leu Phe Phe Met Ile Met Leu
            180                 185                 190

Ile Val Cys Phe Leu Leu Ile Ile Ser Leu Trp Arg His Arg Arg Gln
        195                 200                 205

Met Glu Ser Asn Lys Leu Gly Phe Arg Asp Leu Asn Thr Glu Val His
    210                 215                 220

Val Arg Thr Ile Lys Val Leu Leu Ser Phe Ile Ile Leu Phe Ile Leu
225                 230                 235                 240

His Phe Met Gly Ile Thr Ile Asn Val Ile Cys Leu Leu Ile Pro Glu
                245                 250                 255

Ser Asn Leu Leu Phe Met Phe Gly Leu Thr Thr Ala Phe Ile Tyr Pro
            260                 265                 270

Gly Cys His Ser Leu Ile Leu Ile Leu Ala Asn Ser Arg Leu Lys Gln
        275                 280                 285

Cys Ser Val Met Ile Leu Gln Leu Leu Lys Cys Cys Glu Asn Gly Lys
    290                 295                 300

Glu Leu Arg Asp Thr
305
```

<210> 132
<211> 1535
<212> DNA
<213> Mus musculus

<400> 132
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ctgccattcc tcagattctc ctcaacttcc caccctccag tgacctttct ccttttctac 120

agtcaaacta tggacctcac aacctgacac ttcttcagat gcaaaatatt ctcacagaga 180

caagtaaaac atacaaaaca aatactttaa tttgcctatt aacaaatggc aagaaaagat 240

tcaggcttga acatcctgta gacaagctaa ggacaggagc aactgaaggg atctccatga 300

agacctttca gatttctacc aaaagtaatt tttaactata tttaagtctt taaagaaaga 360

aagtaaagcc actcttttat tgaacagcaa tagattggaa tcttaaacaa ctgcaacaga 420

agccatttta aagatcaaca aagatgctga gcacaatgga aggtgtcctc ctttcagttt 480

caactagtga ggctgtgctg ggcattgtag ggaacacatt cattgcactt gtaaactgta 540

tggactataa caggaacaag aagctctcta atattggctt tattctcact ggcttggcaa 600

tttccagaat ttgccttgtg ttgatcttaa tcacagaggc atacataaaa atattctatc 660

cacagttgct gtctcctgtc aacataattg agctcatcag ttatctatgg ataattatct 720

gtcaattgaa tgtctggttt gccactagtc tcagtatttt ttatttcctg aagatagcaa 780

atttttccca ctacatattt gtctggttaa aaagaagaat tgatttagtt tttttcttcc 840

tgatagggtg cttgcttatc tcatggctat tttctttccc agttgttgcg aagatggtta 900

aagataataa aatgctgtat ataaacacat cttggcagat ccacatgaag aaaagtgagt 960

taatcattaa ctatgttttc accaatgggg gagtattttt atttttatg ataatgttaa 1020

ttgtatgttt cctgttaatc atttcacttt ggagacatcg caggcagatg gaatcaaata 1080

aattaggatt cagagatctc aacacagaag ttcatgtgag aacaataaaa gttttattgt 1140

cttttattat ccttttttata ttgcatttca tgggtattac cataaatgta atttgtctgt 1200

taatcccaga aagcaacttg ttattcatgt ttggtttgac aactgcattc atctatcccg 1260

gctgccactc acttatccta attctagcaa acagtcggct gaagcagtgc tctgtaatga 1320

tactgcaact attaaagtgc tgtgagaatg gtaaagaact cagagacaca tgacagtctg 1380

gaacacatgc aatctggaat tgtcagtgga aaaagttact gaagatcttt tcacttgcac 1440

tatgctcttt tattgatttg gcatcattat caaacactgt tggagccttg tgaactcttg 1500

ttcagagtct tctgcctctc aaggaatcac actcc 1535

<210> 133
<211> 310
<212> PRT
<213> Mus musculus

<400> 133
Met Cys Ala Val Leu Arg Ser Ile Leu Thr Ile Ile Phe Ile Leu Glu
1 5 10 15

Phe Phe Ile Gly Asn Leu Gly Asn Gly Phe Ile Ala Leu Val Gln Cys
20 25 30

Met Asp Leu Arg Lys Arg Arg Thr Phe Pro Ser Ala Asp His Phe Leu
35 40 45

Thr Ala Leu Ala Ile Ser Arg Leu Ala Leu Ile Trp Val Leu Phe Leu
50 55 60

Asp Ser Phe Leu Phe Ile Gln Ser Pro Leu Leu Met Thr Arg Asn Thr
65 70 75 80

Leu Arg Leu Ile Gln Thr Ala Trp Asn Ile Ser Asn His Phe Ser Ile
85 90 95

Trp Phe Ala Thr Ser Leu Ser Ile Phe Tyr Leu Phe Lys Ile Ala Ile
100 105 110

Phe Ser Asn Tyr Leu Phe Phe Tyr Leu Lys Arg Arg Val Lys Arg Val
115 120 125

Val Leu Val Ile Leu Leu Leu Ser Met Ile Leu Leu Phe Phe Asn Ile
130 135 140

Phe Leu Glu Ile Lys His Ile Asp Val Trp Ile Tyr Gly Thr Lys Arg
145 150 155 160

Asn Ile Thr Asn Gly Leu Ser Ser Asn Ser Phe Ser Glu Phe Ser Arg
165 170 175

Leu Ile Leu Ile Pro Ser Leu Met Phe Thr Leu Val Pro Phe Gly Val
180 185 190

Ser Leu Ile Ala Phe Leu Leu Leu Ile Phe Ser Leu Met Lys His Val
195 200 205

Arg Lys Met Gln Tyr Tyr Thr Lys Gly Cys Lys Asp Val Arg Thr Met
210 215 220

Ala His Thr Thr Ala Leu Gln Thr Val Val Ala Phe Leu Leu Leu Tyr
225 230 235 240

Thr Thr Phe Phe Leu Ser Leu Val Val Glu Val Ser Thr Leu Glu Met
245 250 255

Asp Glu Ser Leu Met Leu Leu Phe Ala Lys Val Thr Ile Met Ile Phe
260 265 270

Pro Ser Ile His Ser Cys Ile Phe Ile Leu Lys His Asn Lys Leu Arg
275 280 285

Gln Asp Leu Leu Ser Val Leu Lys Trp Leu Gln Tyr Trp Cys Lys Arg
290 295 300

Glu Lys Thr Leu Asp Ser
305 310

<210> 134
<211> 1482
<212> DNA
<213> Mus musculus

<400> 134
aataatagat tttttaatat tcagaatttt taagtaatgt agtattgtta gcagcatagc 60

ttataggaaa agttccaagt aattttgatt ttgtaattct gattccccca aatcaagtat 120

caagtttacc tgcacagaca agggaagaag tggcaaaatg tgcaaatgag agcaacttta 180

tttgactgtc agtacgttga aattcagtgt ttccttaatc agttatggat tgacatttat 240

gtgcacagaa cctggaagaa tttcagccaa gctggaggta aaaatccaaa attctgatga 300

taaaaccaaa agtaaatcac aggtaaatct tctttatttt tctttttaa tactgtatat 360

ggacattttt taatacagca tatttttttt ttgaaattta gaaaaaaacc actaagaaat 420

attcaccaat ggaatagact ttaaagtcac ttagagaatg tgtgctgttc tacgtagcat 480

actgacaatc attttcattt tggagttctt cattggaaat ctggggaatg gattcatagc 540

tctggtacaa tgcatggact tacgaaagag aagaacgttc ccttcagcag atcatttcct 600

cactgctctg gccatctcca ggcttgctct gatatgggtt ttatttctag attcatttct 660

gtttatacaa tccccattac tgatgactag aaatacatta agactgattc agactgcctg 720

gaatataagc aatcatttca gtatatggtt tgctaccagc ctcagcatct tttatctctt 780

caagatagcc atttttttcta actatctttt cttctacctg aagcggagag ttaaaagggt 840

ggttttggtg atactgctgc tatccatgat ccttttgttt tttaatatat ttttagaaat 900

caaacatatt gatgtctgga tctatggaac caaaagaaac ataactaatg gtttgagttc 960

aaacagtttt tcagagtttt ccaggcttat tttaattcca agtttaatgt tcacattagt 1020

acccttttggt gtatccttga tagctttcct cctcctaatc ttttccctta tgaaacatgt 1080

aaggaagatg cagtactaca ccaaaggatg caaagatgtc agaaccatgg cccacaccac 1140

agccctgcag actgtggttg ccttcctcct attatatact actttctttc tgtctctagt 1200

tgtggaagtt tcaacacttg aaatggatga aagtctgatg cttctgtttg caaaagttac 1260

tataatgatt tttccttcca tccactcctg tattttcatt ttgaaacata ataagttgag 1320

acaggacttg ctttcagtac tgaagtggct acagtattgg tgcaagcgtg agaaaacctt 1380

ggattcatag accattgtat gcatcacctt gaatattcta gaggggtgta ggttcatatg 1440

aaagtattga atttttaaat ttgagccttt tgtatatttt ct 1482

<210> 135
<211> 305
<212> PRT
<213> Mus musculus

<400> 135

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Met Asn Gly Val Leu Gln Val Thr Phe Ile Val Ile Leu Ser Val Glu
1               5                  10                  15

Phe Ile Ile Gly Ile Phe Gly Asn Gly Phe Ile Ala Val Val Asn Ile
            20                  25                  30

Lys Asp Leu Val Lys Gly Arg Lys Ile Ser Ser Val Asp Gln Ile Leu
        35                  40                  45

Thr Ala Leu Ala Ile Ser Arg Ile Ala Leu Leu Trp Leu Ile Leu Val
    50                  55                  60

Ser Trp Trp Ile Phe Val Leu Tyr Pro Gly Gln Trp Met Thr Asp Arg
65                  70                  75                  80

Arg Val Ser Ile Met His Ser Ile Trp Thr Thr Phe Asn Gln Ser Ser
                85                  90                  95

Leu Trp Phe Ala Thr Ser Leu Ser Ile Phe Tyr Phe Phe Lys Ile Ala
            100                 105                 110

Asn Phe Ser Asn Pro Ile Phe Leu Tyr Leu Lys Val Arg Leu Lys Lys
        115                 120                 125

Val Met Ile Gly Thr Leu Ile Met Ser Leu Ile Leu Phe Cys Leu Asn
    130                 135                 140

Ile Ile Ile Met Asn Ala Pro Glu Asn Ile Leu Ile Thr Glu Tyr Asn
145                 150                 155                 160

Val Ser Met Ser Tyr Ser Leu Ile Leu Asn Asn Thr Gln Leu Ser Met
                165                 170                 175

Leu Phe Pro Phe Ala Asn Thr Met Phe Gly Phe Ile Pro Phe Ala Val
            180                 185                 190

Ser Leu Val Thr Phe Val Leu Leu Val Phe Ser Leu Trp Lys His Gln
        195                 200                 205

Arg Lys Met Gln His Ser Ala His Gly Cys Arg Asp Ala Ser Thr Lys
    210                 215                 220
```

Ala His Ile Arg Ala Leu Gln Thr Leu Ile Ala Ser Leu Leu Leu Tyr
225 230 235 240

Ser Ile Phe Phe Leu Ser His Val Met Lys Val Trp Ser Ala Leu Leu
245 250 255

Leu Glu Arg Thr Leu Leu Leu Leu Ile Thr Gln Val Ala Arg Thr Ala
260 265 270

Phe Pro Ser Val His Ser Trp Val Leu Ile Leu Gly Asn Ala Lys Met
275 280 285

Arg Lys Ala Ser Leu Tyr Val Phe Leu Trp Leu Arg Cys Arg His Lys
290 295 300

Glu
305

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<212> DNA
<213> Mus musculus

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aagcatgttt caaagaatct taagtaatta caatagaaat tgaagcatcc aagtgaagat 180

gaatggtgtc ctacaggtta catttatagt cattttgagt gtggaattta taattggcat 240

ctttggcaat ggattcatag cggtggtgaa cataaaggac ttggtcaagg gaaggaagat 300

ctcttcagtg gatcagatcc tcactgctct ggccatctcc agaattgcac tgctgtggtt 360

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agttagcata atgcacagta tatggacaac attcaaccag agtagtctct ggtttgctac 480

aagtctcagc atcttttatt ttttcaagat agcaaatttt tccaacccta tttttcttta 540

tttaaaggtc agacttaaaa aagtcatgat agggacattg ataatgtctt tgattctctt 600

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caacaccatg tttgggttca taccttttgc tgtgtcactg gtcacttttg tccttcttgt 780

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cagcactaag gcccacatca gagccttgca gacattgatt gcctccctcc tcctgtattc 900

cattttcttc ctgtctcatg ttatgaaggt ttggagtgct ctgcttctgg agaggacact 960

cctgcttttg atcacacagg ttgcaagaac agcttttccg tcagtgcact cctgggtcct 1020

gattctgggc aatgctaaga tgagaaaggc ttctctctat gtattcctgt ggctgaggtg 1080

caggcacaaa gaatgaaacc ctacagtgta cagacctggg gtatatttat gtggatgatc 1140

ttacatatct tagaggaaaa tggattaaaa gaaattctca tatttataaa tttttaggtc 1200

tgaattacat aaaaatgtat ataatatttt caaagtacaa gatagtagtt tataacttac 1260

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<210> 137
<211> 330
<212> PRT
<213> Mus musculus

<400> 137

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Met Lys His Phe Trp Lys Ile Leu Ser Val Ile Ser Gln Ser Thr Leu
1               5                   10                  15

Ser Val Ile Leu Ile Val Glu Leu Val Ile Gly Ile Ile Gly Asn Gly
            20                  25                  30

Phe Met Val Leu Val His Cys Met Asp Trp Val Lys Lys Lys Lys Met
        35                  40                  45

Ser Leu Val Asn Gln Ile Leu Thr Ala Leu Ser Ile Ser Arg Ile Phe
    50                  55                  60

Gln Leu Cys Leu Leu Phe Ile Ser Leu Val Ile Asn Phe Ser Tyr Thr
65                  70                  75                  80

Asp Leu Thr Thr Ser Ser Arg Met Ile Gln Val Met Tyr Asn Ala Trp
                85                  90                  95

Ile Leu Ala Asn His Phe Ser Ile Trp Ile Ala Thr Cys Leu Thr Val
            100                 105                 110

Leu Tyr Phe Leu Lys Ile Ala Asn Phe Ser Asn Ser Phe Phe Leu Tyr
        115                 120                 125

Leu Lys Trp Arg Val Glu Lys Val Val Ser Val Thr Leu Leu Val Ser
    130                 135                 140

Leu Leu Leu Leu Ile Leu Asn Ile Leu Leu Thr Asn Leu Glu Thr Asp
145                 150                 155                 160

Met Trp Thr Asn Glu Tyr Gln Arg Asn Ile Ser Cys Ser Phe Ser Ser
                165                 170                 175

His Tyr Tyr Ala Lys Cys His Arg Gln Val Leu Arg Leu His Ile Ile
            180                 185                 190

Phe Leu Ser Val Pro Val Val Leu Ser Leu Ser Thr Phe Leu Leu Leu
        195                 200                 205
```

```
Ile Phe Ser Leu Trp Thr His His Lys Arg Met Gln Gln His Val Gln
    210                 215                 220

Gly Gly Arg Asp Ala Arg Thr Thr Ala His Phe Lys Ala Leu Gln Thr
225                 230                 235                 240

Val Ile Ala Phe Phe Leu Leu Tyr Ser Ile Phe Ile Leu Ser Val Leu
                245                 250                 255

Ile Gln Ile Trp Lys Tyr Glu Leu Leu Lys Lys Asn Leu Phe Val Val
            260                 265                 270

Phe Cys Glu Val Val Tyr Ile Ala Phe Pro Thr Phe His Ser Tyr Ile
        275                 280                 285

Leu Ile Val Gly Asp Met Lys Leu Arg Gln Ala Cys Leu Pro Leu Cys
    290                 295                 300

Ile Ile Ala Ala Glu Ile Gln Thr Thr Leu Cys Arg Asn Phe Arg Ser
305                 310                 315                 320

Leu Lys Tyr Phe Arg Leu Cys Cys Ile Phe
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<210> 138
<211> 1354
<212> DNA
<213> Mus musculus

<400> 138

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ttaaaaattt acatctcaac tggatatatg agcaagtctt tataactgat atataaaatg    240

aagcactttt ggaagatatt atctgttatc tcccagagca cactttcagt cattttaatc    300

gtggaattag taattggaat tataggaaat gggttcatgg tcctggtcca ctgtatggac    360

tgggttaaga aaaagaaaat gtccctagtt aatcaaattc ttactgcttt gtcaatctcc    420

agaatttttc agctctgttt attgtttata agtttagtaa tcaacttttc atatacagat    480

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tatgaattac tgaagaaaaa tcttttcgtt gtattttgtg aggttgtata tatagctttt 1080

ccgacattcc attcatatat tctgattgta ggagacatga agctgagaca ggcctgcctg 1140

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aagtacttta gattatgttg tatattctag acaaaaatta actgatacaa atgtcttttg 1260

tatttttcat tttaaatatc ctttaatttt gactgcatga aattgatttc tgcttgcaat 1320

tatcactgat taaaactatt aataatttaa ctag 1354

<210> 139
<211> 299
<212> PRT
<213> Mus musculus

<400> 139

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Met Val Pro Thr Gln Val Thr Ile Phe Ser Ile Ile Met Tyr Val Leu
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Glu Ser Leu Val Ile Ile Val Gln Ser Cys Thr Thr Val Ala Val Leu
            20                  25                  30

Phe Arg Glu Trp Met His Phe Gln Arg Leu Ser Pro Val Glu Thr Ile
        35                  40                  45

Leu Ile Ser Leu Gly Ile Ser His Phe Cys Leu Gln Trp Thr Ser Met
    50                  55                  60

Leu Tyr Asn Phe Gly Thr Tyr Ser Arg Pro Val Leu Leu Phe Trp Lys
65                  70                  75                  80

Val Ser Val Val Trp Glu Phe Met Asn Ile Leu Thr Phe Trp Leu Thr
                85                  90                  95

Ser Trp Leu Ala Val Leu Tyr Cys Val Lys Val Ser Ser Phe Thr His
            100                 105                 110

Pro Ile Phe Leu Trp Leu Arg Met Lys Ile Leu Lys Leu Val Leu Trp
        115                 120                 125

Leu Ile Leu Gly Ala Leu Ile Ala Ser Cys Leu Ser Ile Ile Pro Ser
    130                 135                 140

Val Val Lys Tyr His Ile Gln Met Glu Leu Val Thr Leu Asp Asn Leu
145                 150                 155                 160

Pro Lys Asn Asn Ser Leu Ile Leu Arg Leu Gln Gln Phe Glu Trp Tyr
                165                 170                 175
```

```
Phe Ser Asn Pro Leu Lys Met Ile Gly Phe Gly Ile Pro Phe Phe Val
            180                 185                 190

Phe Leu Ala Ser Ile Ile Leu Leu Thr Val Ser Leu Val Gln His Trp
        195                 200                 205

Val Gln Met Lys His Tyr Ser Ser Ser Asn Ser Ser Leu Lys Ala Gln
    210                 215                 220

Phe Thr Val Leu Lys Ser Leu Ala Thr Phe Phe Thr Phe Phe Thr Ser
225                 230                 235                 240

Tyr Phe Leu Thr Ile Val Ile Ser Phe Ile Gly Thr Val Phe Asp Lys
                245                 250                 255

Lys Ser Trp Phe Trp Val Cys Glu Ala Val Ile Tyr Gly Leu Val Cys
            260                 265                 270

Ile His Phe Thr Ser Leu Met Met Ser Asn Pro Ala Leu Lys Lys Ala
        275                 280                 285

Leu Lys Leu Gln Phe Trp Ser Pro Glu Pro Ser
    290                 295
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<210> 140
<211> 2887
<212> DNA
<213> Mus musculus

<220>
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aatcaattcc ttaattataa gctattgttt cattatttca tttcctacgt ttttttgcat 180

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taaaaattat atactatttt ctttgcacca ctgagttcag taggttttga aggtttatgc 300

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atcaatgact agaatctgtc tgtcactttt gaaaccgcta attaaatagt tggtgcttat 480

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caagttacat gctttactga tggtgaattg gttttcttcc agttcatctg ggttaagtga 600

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ccctgtgtga atttgaccta acaagcaaag cacagacaaa tgctgtagat agggaaatgt 1320

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ggctaggaag agacttcaga gtggaagcat ggtgccaacg caagtcacca tcttctccat 1500

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gctattcaga gagtggatgc actttcaaag actgtcaccg gtggagacga ttctcatcag 1620

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acagtttgaa tggtattttt ctaatccttt aaaaatgatt ggctttggta ttcctttctt 2040

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<210> 141
<211> 335
<212> PRT
<213> Mus musculus

<400> 141

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Phe Leu Thr Gly Val Leu Ala Asn Gly Leu Ile Val Val Val Asn Ala
            20                  25                  30

Ile Asp Leu Ile Met Trp Lys Lys Met Ala Pro Leu Asp Leu Leu Leu
        35                  40                  45

Phe Cys Leu Ala Thr Ser Arg Ile Ile Leu Gln Leu Cys Ile Leu Phe
    50                  55                  60

Ala Gln Leu Gly Leu Ser Cys Leu Val Arg His Thr Leu Phe Ala Asp
65                  70                  75                  80

Asn Val Thr Phe Val Tyr Ile Ile Asn Glu Leu Ser Leu Trp Phe Ala
                85                  90                  95

Thr Trp Leu Gly Val Phe Tyr Cys Ala Lys Ile Ala Thr Ile Pro His
            100                 105                 110

Pro Leu Phe Leu Trp Leu Lys Met Arg Ile Ser Arg Leu Val Pro Trp
        115                 120                 125

Leu Ile Leu Ala Ser Val Val Tyr Val Thr Val Thr Thr Phe Ile His
    130                 135                 140

Ser Arg Glu Thr Ser Glu Leu Pro Lys Gln Ile Phe Ile Ser Phe Phe
145                 150                 155                 160

Ser Lys Asn Thr Thr Arg Val Arg Pro Ala His Ala Thr Leu Leu Ser
                165                 170                 175
```

```
Val Phe Val Phe Gly Leu Thr Leu Pro Phe Leu Ile Phe Thr Val Ala
            180                 185                 190

Val Leu Leu Leu Leu Ser Ser Leu Trp Asn His Ser Arg Gln Met Arg
        195                 200                 205

Thr Met Val Gly Thr Arg Glu Pro Ser Arg His Ala Leu Val Ser Ala
    210                 215                 220

Met Leu Ser Ile Leu Ser Phe Leu Ile Leu Tyr Leu Ser His Asp Met
225                 230                 235                 240

Val Ala Val Leu Ile Cys Thr Gln Gly Leu His Phe Gly Ser Arg Thr
                245                 250                 255

Phe Ala Phe Cys Leu Leu Val Ile Gly Met Tyr Pro Ser Leu His Ser
            260                 265                 270

Ile Val Leu Ile Leu Gly Asn Pro Lys Leu Lys Arg Asn Ala Lys Thr
        275                 280                 285

Phe Ile Val His Cys Lys Cys Cys His Cys Ala Arg Ala Trp Val Thr
    290                 295                 300

Ser Arg Asn Pro Arg Leu Ser Asp Leu Pro Val Pro Ala Thr His His
305                 310                 315                 320

Ser Ala Asn Lys Thr Ser Cys Ser Glu Ala Cys Ile Met Pro Ser
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<210> 142
<211> 1698
<212> DNA
<213> Mus musculus

<400> 142

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ttgtatgatg ctccaggatg cctcattagc attgaggaca atcataatta agtaaggcaa    180

ggcatgaagg tggtcctcac taggtacctg gaggcttctg gttgcatgat ttacttgtga    240

tgactctgac acttaagaag acctgaaaaa tgcaaaagct gtcataaggc acagttcgtt    300

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ccttctggtc gtggtagtgc agtttttaac tggggtcttg gcaaatggcc tcattgtggt    600
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agcgcatgcc acactactct cagtctttgt ctttgggctc acactaccat ttctcatctt 1080

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agcctgtata atgccatctt aattgtccaa cctgaggctt aatcatttca aagggtaaat 1560

tgatgatcaa agcccaacac atgatatgac atcaaggtcc atatcccagt agtcatgtgg 1620

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<210> 143
<211> 295
<212> PRT
<213> Mus musculus

<400> 143

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Met Asn Leu Val Glu Trp Ile Val Thr Ile Ile Met Met Thr Glu Phe
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Leu Leu Gly Asn Cys Ala Asn Val Phe Ile Thr Ile Val Asn Phe Ile
            20                  25                  30

Asp Cys Val Lys Arg Arg Lys Ile Ser Ser Ala Asp Arg Ile Ile Thr
        35                  40                  45

Ala Ile Ala Ile Phe Arg Ile Gly Leu Leu Trp Ala Met Leu Thr Asn
    50                  55                  60
```

```
Trp His Ser His Val Phe Thr Pro Asp Thr Asp Asn Leu Gln Met Arg
65                  70                  75                  80

Val Phe Gly Gly Ile Thr Trp Ala Ile Thr Asn His Phe Thr Thr Trp
                85                  90                  95

Leu Gly Thr Ile Leu Ser Met Phe Tyr Leu Phe Lys Ile Ala Asn Phe
            100                 105                 110

Ser Asn Ser Leu Phe Leu His Leu Lys Arg Lys Leu Asp Asn Val Leu
        115                 120                 125

Leu Val Ile Phe Leu Gly Ser Ser Leu Phe Leu Val Ala Tyr Leu Gly
    130                 135                 140

Met Val Asn Ile Lys Lys Ile Ala Trp Met Ser Ile His Glu Gly Asn
145                 150                 155                 160

Val Thr Thr Lys Ser Lys Leu Lys His Val Thr Ser Ile Thr Asn Met
                165                 170                 175

Leu Leu Phe Ser Leu Ile Asn Ile Val Pro Phe Gly Ile Ser Leu Asn
            180                 185                 190

Cys Val Leu Leu Leu Ile Tyr Ser Leu Ser Lys His Leu Lys Asn Met
        195                 200                 205

Lys Phe Tyr Gly Lys Gly Cys Gln Asp Gln Ser Thr Met Val His Ile
    210                 215                 220

Lys Ala Leu Gln Thr Val Val Ser Phe Leu Leu Leu Tyr Ala Thr Tyr
225                 230                 235                 240

Ser Ser Cys Val Ile Ile Ser Gly Trp Ser Leu Gln Asn Ala Pro Val
                245                 250                 255

Phe Leu Phe Cys Val Thr Ile Gly Ser Phe Tyr Pro Ala Gly His Ser
            260                 265                 270

Cys Ile Leu Ile Trp Gly Asn Gln Lys Leu Lys Gln Val Phe Leu Leu
        275                 280                 285

Leu Leu Arg Gln Met Arg Cys
    290                 295
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<210> 144
<211> 1394
<212> DNA
<213> Mus musculus

<400> 144
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atttgaagca atggaccaga attcctcttt atttgactct tagcaaattg gaatgcagca 180

tcctttcaag agcagcactg aaatatacca gtcaatggca gagagtaaaa aagtatgcaa 240

ttggagacat tatggtaata taaatttcca ttaaaaatga gactgcattc acctattaca 300

acacattgct attctgctca acacagagtt aaaaagaaac aagaactctt gtatacattc 360

agttagtcac aagtataatt atgttcacat attttaaaaa aatgaatcat gatctgtgaa 420

ttgagcctgg ctttttttgt ctctctcttt ttattctttt cctttagaca gacacaatga 480

atttggtaga atggattgtt accatcataa tgatgacaga atttctctta ggaaactgtg 540

ccaatgtctt cataaccata gtgaacttca tcgactgtgt gaagagaaga aagatctcct 600

cagctgatcg aattataact gctattgcca tcttcagaat tggtttgttg tgggcaatgt 660

taacgaactg gcattcacat gtgtttactc cagacacaga caatttacaa atgagagttt 720

tcggtggaat tacctgggct ataaccaacc attttaccac ttggctgggg accatactga 780

gcatgtttta tttattcaag atagccaatt tttccaacag tctatttctt catctaaaaa 840

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atcttgggat ggtgaacatc aagaagattg cttggatgag tattcatgaa ggaaatgtga 960

ccacaaagag caaactgaag catgtaacaa gcatcacaaa tatgcttctc ttcagcctga 1020

taaacattgt accatttggt atatcactga actgtgttct gctcttaatc tattccctga 1080

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cctgtgtcat tatatcaggt tggagtttgc aaaatgcacc agtcttcctg ttttgtgtga 1260

caattggatc cttctaccca gcaggtcatt cttgtatctt gatttgggga aaccagaaac 1320

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<210> 145
<211> 305
<212> PRT
<213> Mus musculus

<400> 145
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Phe Val Phe Gly Asn Met Ser Asn Gly Phe Ile Val Leu Ile Asn Cys
20 25 30

Ile Asp Trp Val Arg Lys Gly Thr Leu Ser Ser Ile Gly Trp Ile Leu
35 40 45

```
Leu Phe Leu Ala Ile Ser Arg Met Val Leu Ile Trp Glu Met Leu Ile
    50                  55                  60

Thr Trp Ile Lys Tyr Met Lys Tyr Ser Phe Ser Phe Val Thr Gly Thr
65                  70                  75                  80

Glu Leu Arg Gly Ile Met Phe Thr Trp Val Ile Ser Asn His Phe Ser
                85                  90                  95

Leu Trp Leu Ala Thr Ile Leu Ser Ile Phe Tyr Leu Leu Lys Ile Ala
            100                 105                 110

Ser Phe Ser Lys Pro Val Phe Leu Tyr Leu Lys Trp Arg Glu Lys Lys
        115                 120                 125

Val Leu Leu Ile Val Leu Leu Gly Asn Leu Ile Phe Leu Met Leu Asn
    130                 135                 140

Ile Leu Gln Ile Asn Lys His Ile Glu His Trp Met Tyr Gln Tyr Glu
145                 150                 155                 160

Arg Asn Ile Thr Trp Ser Ser Arg Val Ser Asp Phe Ala Gly Phe Ser
                165                 170                 175

Asn Leu Val Leu Leu Glu Met Ile Val Phe Ser Val Thr Pro Phe Thr
            180                 185                 190

Val Ala Leu Val Ser Phe Ile Leu Leu Ile Phe Ser Leu Trp Lys His
        195                 200                 205

Leu Gln Lys Met His Leu Asn Ser Arg Gly Glu Arg Asp Pro Ser Thr
    210                 215                 220

Lys Ala His Val Asn Ala Leu Arg Ile Met Val Ser Phe Leu Leu Leu
225                 230                 235                 240

Tyr Ala Thr Tyr Phe Ile Ser Phe Phe Leu Ser Leu Ile Pro Met Ala
                245                 250                 255

His Lys Thr Arg Leu Gly Leu Met Phe Ser Ile Thr Val Gly Leu Phe
            260                 265                 270

Tyr Pro Ser Ser His Ser Phe Ile Leu Ile Leu Gly His Ser Asn Leu
        275                 280                 285

Arg Gln Ala Ser Leu Trp Val Met Thr Tyr Leu Lys Cys Gly Gln Lys
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His
305
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<210> 146
<211> 2567
<212> DNA
<213> Mus musculus

<400> 146

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tttgtgctct agaacataag ctgatagaat caaattttct ttagcagaga caatgcaaat 420

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cagcatcttt tatttgctca aaatagccag tttctccaaa ccggtttttc tctatttgaa 1140

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caacatatta caaataaaca aacatataga acactggatg tatcaatatg agagaaatat 1260

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gagacccagc tgatagctgt gcaataaaga ttttaatttt catcctgttg tgagttatct 2040

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ggtatgtatt ttactattta aataagattt tgtcaaaagc tagtcttgac accttaggta 2460

aacataggaa ggcaacaagt ttgaagtcag ctactgggga cagtgctgct agcagctgac 2520

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<210> 147
<211> 309
<212> PRT
<213> Mus musculus

<400> 147

Met	Ser	Ser	Leu	Leu	Glu	Ile	Phe	Phe	Val	Ile	Ile	Ser	Val	Val	Glu
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Phe	Ile	Ile	Gly	Thr	Leu	Gly	Asn	Gly	Phe	Ile	Val	Leu	Ile	Asn	Ser
		20					25					30			
Thr	Ser	Trp	Phe	Lys	Asn	Gln	Lys	Ile	Ser	Val	Ile	Asp	Phe	Ile	Leu
	35					40					45				
Thr	Trp	Leu	Ala	Ile	Ser	Arg	Met	Cys	Val	Leu	Trp	Thr	Thr	Ile	Ala
50					55					60					
Gly	Ala	Ser	Leu	Arg	Lys	Phe	Tyr	Lys	Thr	Leu	Ser	Tyr	Ser	Lys	Asn
65				70					75					80	
Phe	Lys	Phe	Cys	Phe	Asp	Ile	Ile	Trp	Thr	Gly	Ser	Asn	Tyr	Leu	Cys
			85					90					95		
Ile	Ala	Cys	Thr	Thr	Cys	Ile	Ser	Val	Phe	Tyr	Leu	Phe	Lys	Ile	Ala
		100					105					110			

```
Asn Phe Ser Asn Ser Ile Phe Phe Trp Ile Lys Gln Arg Ile His Ala
        115                 120                 125

Val Leu Leu Ala Ile Val Leu Gly Thr Leu Met Tyr Phe Ile Leu Phe
    130                 135                 140

Leu Ile Phe Met Lys Met Ile Ala Asn Asn Phe Ile Tyr Lys Trp Thr
145                 150                 155                 160

Lys Leu Glu Gln Asn Thr Thr Phe Pro Val Leu Asp Thr Leu Ser Gly
                165                 170                 175

Phe Leu Val Tyr His Ser Leu Tyr Asn Gly Ile Leu Ile Phe Phe Phe
            180                 185                 190

Ile Val Ser Leu Thr Ser Phe Leu Leu Leu Ile Phe Ser Leu Trp Ser
        195                 200                 205

His Leu Arg Arg Met Lys Leu Gln Gly Ile His Thr Lys Asp Ile Ser
    210                 215                 220

Thr Glu Ala His Ile Lys Ala Met Lys Thr Met Met Ser Phe Leu Leu
225                 230                 235                 240

Phe Phe Ile Ile Tyr Tyr Ile Ser Asn Ile Met Leu Ile Val Ala Ser
                245                 250                 255

Ser Ile Leu Asp Asn Val Val Ala Gln Ile Phe Ser Tyr Asn Leu Ile
            260                 265                 270

Phe Leu Tyr Leu Ser Val His Pro Phe Leu Leu Val Leu Trp Asn Ser
        275                 280                 285

Lys Leu Lys Trp Thr Phe Gln His Val Leu Arg Lys Leu Val Cys His
    290                 295                 300

Cys Gly Gly Tyr Ser
305
```

<210> 148
<211> 1488
<212> DNA
<213> Mus musculus

<400> 148

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agcagagaac aaaatgatag ccttgataat tgttggtttg ctcaagaaaa atgggtgtat    180

actttaacat ttaattggga actcagttga gagcatacat ttagggtttt acagaggtat    240

tcattgccca tttaagattt ggattcacac atctacatca atgtggctgt aatccatttt    300

cccatgatga ataaggtag agactgccta ttaaacgaca tgtcgagcct actggagatt     360
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ttctttgtga tcatttcggt tgtagaattc ataataggaa ctttgggaaa tggatttatt 420

gtcctgataa acagtacttc ttggttcaag aatcagaaaa tctctgtaat tgatttcatt 480

cttacttggt tggccatctc cagaatgtgt gttctatgga caacaattgc tggtgcctct 540

ctcaggaaat tctacaagac gttaagttac tctaagaatt tcaaattttg ttttgacatt 600

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gcagtacttc tggctattgt cctaggcaca ctcatgtatt tcattttatt tctcattttt 780

atgaaaatga tagctaataa ttttatctac aaatggacaa aattggaaca aaacacaaca 840

ttccctgttt tagatactct aagtggtttc ttagtctacc atagcctcta caatgggatt 900

ctcatttttct tttttatagt gtctctgacc tcatttcttc ttttaatctt ctctttatgg 960

agccacctta ggaggatgaa actacagggc atacatacca aagacataag cacagaagca 1020

cacataaaag ctatgaaaac tatgatgtca ttccttttgt tcttcatcat atattatatt 1080

agcaacatta tgcttattgt ggcaagctcc attcttgaca atgtggttgc acaaattttc 1140

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ggaacaagga ataaagagga gaaatatatt ccttttcaga tcatctgctc tgtcattctg 1380

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atgtttcaat ccaacttaga gagggtacaa aatagtccta ggaggcag 1488

<210> 149
<211> 333
<212> PRT
<213> Mus musculus

<400> 149

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Met Phe Ser Gln Lys Ile Asn Tyr Ser His Leu Phe Thr Phe Ser Ile
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Thr Leu Tyr Val Glu Ile Val Thr Gly Ile Leu Gly His Gly Phe Ile
            20                  25                  30

Ala Leu Val Asn Ile Met Asp Trp Val Lys Arg Arg Arg Ile Ser Ser
        35                  40                  45

Val Asp Gln Ile Leu Thr Ala Leu Ala Leu Thr Arg Phe Ile Tyr Val
    50                  55                  60
```

```
Leu Ser Met Leu Ile Cys Ile Leu Leu Phe Met Leu Cys Pro His Leu
65                  70                  75                  80

Pro Arg Arg Ser Glu Met Leu Ser Ala Met Gly Ile Phe Trp Val Val
                85                  90                  95

Asn Ser His Phe Ser Ile Trp Leu Thr Thr Cys Leu Gly Val Phe Tyr
            100                 105                 110

Phe Leu Lys Ile Ala Asn Phe Ser Asn Ser Phe Phe Leu Tyr Leu Lys
        115                 120                 125

Trp Arg Val Lys Lys Val Ile Leu Ile Ile Ile Leu Ala Ser Leu Ile
    130                 135                 140

Phe Leu Thr Leu His Ile Leu Ser Leu Gly Ile Tyr Asp Gln Phe Ser
145                 150                 155                 160

Ile Ala Ala Tyr Val Gly Asn Met Ser Tyr Ser Leu Thr Asp Leu Thr
                165                 170                 175

Gln Phe Ser Ser Thr Phe Leu Phe Ser Asn Ser Ser Asn Val Phe Leu
            180                 185                 190

Ile Thr Asn Ser Ser His Val Phe Leu Pro Ile Asn Ser Leu Phe Met
        195                 200                 205

Leu Ile Pro Phe Thr Val Ser Leu Val Ala Phe Leu Met Leu Ile Phe
    210                 215                 220

Ser Leu Trp Lys His His Lys Lys Met Gln Val Asn Ala Lys Gln Pro
225                 230                 235                 240

Arg Asp Val Ser Thr Met Ala His Ile Lys Ala Leu Gln Thr Val Phe
                245                 250                 255

Ser Phe Leu Leu Leu Tyr Ala Ile Tyr Leu Leu Phe Leu Ile Ile Gly
            260                 265                 270

Ile Leu Asn Leu Gly Leu Met Glu Lys Ile Val Ile Leu Ile Phe Asp
        275                 280                 285

His Ile Ser Gly Ala Val Phe Pro Ile Ser His Ser Phe Val Leu Ile
    290                 295                 300

Leu Gly Asn Ser Lys Leu Arg Gln Ala Ser Leu Ser Val Leu Pro Cys
305                 310                 315                 320

Leu Arg Cys Gln Ser Lys Asp Met Asp Thr Met Gly Leu
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<210> 150
<211> 1442
<212> DNA
<213> Mus musculus

<400> 150
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gaaatagtaa cgggaatctt aggacatgga ttcatagcat tagtgaacat catggactgg 180

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ttacccatca actccctgtt catgctcata cccttcacag tgtccctggt agcctttctc 720

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agagatgtca gtactatggc ccacattaaa gccttgcaaa ctgtgttctc cttcctgctg 840

ctgtatgcca tatacttact tttccttatc ataggaattt tgaaccttgg attgatggag 900

aaaatagtga tactgatatt tgaccacatt tctggagcag tttttcctat aagccactca 960

tttgtactga ttctgggaaa cagtaagctg agacaagcca gtctttctgt gttgccttgt 1020

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ag 1442

<210> 151
<211> 309
<212> PRT
<213> Mus musculus

<400> 151

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Phe Val Trp Gly Asn Leu Ser Asn Gly Leu Ile Val Leu Lys Asn Cys
            20                  25                  30

Ile Asp Trp Ile Asn Lys Lys Glu Leu Ser Thr Val Asp Gln Ile Leu
        35                  40                  45

Ile Val Leu Ala Ile Ser Arg Ile Ser Leu Ile Trp Glu Thr Leu Ile
    50                  55                  60

Ile Trp Val Lys Asp Gln Leu Ile Ser Ser Ile Thr Ile Glu Glu Leu
65                  70                  75                  80

Lys Ile Ile Val Phe Ser Phe Ile Leu Ser Ser His Phe Ser Leu Trp
                85                  90                  95

Leu Ala Thr Ala Leu Ser Ile Phe Tyr Leu Phe Arg Ile Pro Asn Cys
            100                 105                 110

Tyr Trp Gln Ile Phe Leu Tyr Leu Lys Trp Arg Ile Lys Gln Leu Ile
        115                 120                 125

Val His Met Leu Leu Gly Ser Leu Val Phe Leu Val Ala Asn Met Ile
    130                 135                 140

Gln Ile Thr Ile Thr Leu Glu Glu Arg Phe Tyr Gln Tyr Gly Gly Asn
145                 150                 155                 160

Thr Ser Val Asn Ser Met Glu Thr Glu Phe Ser Ile Leu Ile Glu Leu
                165                 170                 175

Met Leu Phe Asn Met Thr Met Phe Ser Ile Ile Pro Phe Ser Leu Ala
            180                 185                 190

Leu Ile Ser Phe Leu Leu Leu Ile Phe Ser Leu Trp Lys His Leu Gln
        195                 200                 205

Lys Met Pro Leu Asn Ser Arg Gly Asp Arg Asp Pro Ser Ala Thr Ala
    210                 215                 220

His Arg Asn Ala Leu Arg Ile Leu Val Ser Phe Leu Leu Leu Tyr Thr
225                 230                 235                 240

Ile Tyr Phe Leu Ser Leu Leu Ile Ser Trp Val Ala Gln Lys Asn Gln
                245                 250                 255

Ser Glu Leu Val His Ile Ile Cys Met Ile Thr Ser Leu Val Tyr Pro
            260                 265                 270

Ser Phe His Ser Tyr Ile Leu Ile Leu Gly Asn Tyr Lys Leu Lys Gln
        275                 280                 285
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Thr Ser Leu Trp Val Met Arg Gln Leu Gly Cys Arg Met Lys Arg Gln
290 295 300

Asn Thr Pro Thr Thr
305

<210> 152
<211> 1465
<212> DNA
<213> Mus musculus

<400> 152
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gtctctccac catcatacta attgcagagt ttgtttgggg aaatttgagc aatggtttga 180

tagtgttgaa gaactgcatt gactggatca ataaaaaaga gctctccaca gttgatcaaa 240

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ttaaagatca actaatttca tctattacta ttgaagaatt aaaaataatt gtgttcagct 360

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tcagaatacc taattgctac tggcagatct ttctctactt gaaatggaga ataaagcaac 480

tgattgtcca catgcttctg ggaagcttgg tgttcttggt tgcaaatatg atacagataa 540

ccatcactct tgaagagagg ttctatcaat atggaggaaa tacaagtgta aattccatgg 600

agactgagtt ctcaattttg atagagctga tgttatttaa catgactatg ttctccatta 660

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atgccttgag aattttggtc tccttcctct tgctctatac tatatatttc ctgtctcttc 840

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atttcaatta aatcaaaggt aaagtgtcag cacatgcctt taatcacaca attccatcaa 1380

attcagcact caggagaggg tgatctctgt gaattccagc acactggcgg ccgttactag 1440

tggatccgag ctcggtacca agctt 1465

<210> 153
<211> 311
<212> PRT
<213> Mus musculus

<400> 153

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Met Met Gly Ile Ala Ile Asp Ile Leu Trp Ala Ala Ile Ile Ile Val
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Gln Phe Ile Ile Gly Asn Ile Ala Asn Gly Phe Ile Ala Leu Val Asn
            20                  25                  30

Ile Ile Asp Trp Val Lys Arg Arg Lys Ile Ser Leu Met Asp Lys Ile
        35                  40                  45

Ile Thr Ala Leu Ala Ile Ser Arg Ile Tyr Leu Leu Trp Ser Thr Phe
    50                  55                  60

Leu Ile Thr Leu Thr Ser Ser Leu Asp Pro Asp Ile Lys Met Ala Val
65                  70                  75                  80

Lys Ile Ile Arg Ile Ser Asn Asn Thr Trp Ile Ile Ala Asn His Phe
                85                  90                  95

Ser Ile Trp Phe Ala Thr Cys Leu Ser Ile Phe Tyr Phe Leu Lys Ile
            100                 105                 110

Ala Asn Phe Ser Asn Tyr Ile Phe Leu Tyr Leu Arg Trp Arg Phe Lys
        115                 120                 125

Lys Val Val Ser Val Thr Leu Leu Ile Ser Leu Ile Phe Leu Leu Leu
    130                 135                 140

Asn Ile Leu Leu Met Asn Met His Ile Asp Ile Trp Ser Asp Lys Ser
145                 150                 155                 160

Lys Arg Asn Leu Ser Phe Ser Val Arg Ser Asn Asn Cys Thr Gln Phe
                165                 170                 175

Pro Arg Leu Val Leu Leu Ile Asn Thr Met Phe Thr Ser Ile Pro Phe
            180                 185                 190

Thr Val Ser Leu Leu Ala Phe Leu Leu Leu Ile Phe Ser Leu Trp Arg
        195                 200                 205

His Leu Lys Thr Met Gln Tyr Tyr Ala Lys Gly Ser Glu Asp Thr Thr
    210                 215                 220

Thr Ala Ala His Ile Lys Ala Leu His Met Val Val Ala Phe Leu Leu
225                 230                 235                 240
```

```
Phe Tyr Thr Val Phe Phe Leu Ser Leu Ala Ile Gln Tyr Trp Thr Ser
                245                 250                 255

Gly Ser Gln Glu Asn Asn Asn Leu Phe Tyr Ala Thr Ile Val Ile Thr
            260                 265                 270

Phe Pro Ser Val His Ser Cys Ile Leu Ile Leu Arg Asn Ser Gln Leu
        275                 280                 285

Arg Gln Ala Ser Leu Leu Val Leu Trp Trp Leu Leu Cys Lys Ser Lys
    290                 295                 300

Asp Val Arg Met Leu Val Pro
305                 310
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<210> 154
<211> 1103
<212> DNA
<213> Mus musculus

<400> 154

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aattcataat tgggaatatt gcaaatggat tcatagcatt ggtgaacatc atagactggg    180

tgaagagaag aaaaatctct ttaatggata agatcattac tgctttggca atctctagga    240

tttatctgct gtggtctaca ttcttaatta cactaacatc ttcactggat ccagatatta    300

aaatggctgt gaaaatcatt agaataagca ataacacctg gattattgca aatcatttca    360

gcatttggtt tgctacatgt ctcagcatct tttattttct caagatagcc aatttttcta    420

actatatttt tctctactta aggtggagat ttaagaaggt ggtttcagtg acattgctaa    480

tctctcttat cttcctgctt ttaaatattt tactgatgaa catgcatatt gatatctgga    540

gtgataagtc caaaagaaac ctttctttta gtgtcagatc aaataattgc actcagtttc    600

ccagacttgt ccttttaatc aacacaatgt tcacatcaat ccccttcact gtgtccctgt    660

tggcttttct gcttctcatc ttctccctgt ggagacacct gaaaaccatg caatactatg    720

ctaaaggctc cgaagacacc accacagctg cacatataaa ggccttgcac atggtagtgg    780

cctttctcct gttctacaca gttttctttt tgtctcttgc catacaatat tggacctctg    840

ggtctcaaga gaataacaac ctgttttatg ccacaattgt aattactttc ccttcagtcc    900

attcatgtat cctgattctg agaaacagcc agctgaggca ggcatctctg ttggtgctgt    960

ggtggctgct gtgcaagtcc aaagatgtac ggatgttggt tccctgaaat actctgtcaa   1020
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gtatactttc aagtttatgt atc 1103

<210> 155
<211> 308
<212> PRT
<213> Mus musculus

<400> 155

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Met Leu Pro Thr Leu Ser Val Phe Phe Met Leu Thr Phe Val Leu Leu
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Cys Phe Leu Gly Ile Leu Ala Asn Gly Phe Ile Val Leu Met Leu Ser
            20                  25                  30

Arg Glu Trp Leu Leu Arg Gly Arg Leu Leu Pro Ser Asp Met Ile Leu
        35                  40                  45

Phe Ser Leu Gly Thr Ser Arg Phe Phe Gln Gln Cys Val Gly Leu Val
    50                  55                  60

Asn Ser Phe Tyr Tyr Phe Leu His Leu Val Glu Tyr Ser Gly Ser Leu
65                  70                  75                  80

Ala Arg Gln Leu Ile Ser Leu His Trp Asp Phe Leu Asn Ser Ala Thr
                85                  90                  95

Phe Trp Phe Cys Thr Trp Leu Ser Val Leu Phe Cys Ile Lys Ile Ala
            100                 105                 110

Asn Phe Ser His Pro Ala Phe Leu Trp Leu Lys Trp Arg Phe Pro Ala
        115                 120                 125

Leu Val Pro Trp Phe Leu Leu Gly Ser Ile Leu Val Ser Val Ile Val
    130                 135                 140

Thr Leu Leu Phe Phe Trp Gly Asn His Thr Ile Tyr Gln Ala Phe Leu
145                 150                 155                 160

Arg Arg Lys Phe Thr Gly Asn Thr Thr Phe Lys Glu Trp Asn Arg Arg
                165                 170                 175

Leu Glu Ile Asp Tyr Phe Met Pro Leu Lys Val Val Thr Met Ser Ile
            180                 185                 190

Pro Cys Ser Leu Phe Leu Val Ser Ile Leu Leu Leu Ile Ser Ser Leu
        195                 200                 205

Arg Arg His Ser Leu Arg Met Gln His Asn Thr His Ser Leu Gln Asp
    210                 215                 220

Pro Asn Val Gln Ala His Ser Arg Ala Leu Lys Ser Leu Ile Ser Phe
225                 230                 235                 240

Leu Val Leu Tyr Ala Val Ser Phe Val Ser Met Ile Ile Asp Ala Thr
                245                 250                 255
```

Val Phe Ile Ser Ser Asp Asn Val Trp Tyr Trp Pro Trp Gln Ile Ile
260 265 270

Leu Tyr Phe Cys Met Ser Val His Pro Phe Ile Leu Ile Thr Asn Asn
275 280 285

Leu Arg Phe Arg Gly Thr Phe Arg Gln Leu Leu Leu Leu Ala Arg Gly
290 295 300

Phe Trp Val Ala
305

<210> 156
<211> 3437
<212> DNA
<213> Mus musculus

<400> 156
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aaaataagtc aaaatcacag tgatgttact agggatctag gataagggaa tgaagagaaa 120

gatgttggtc atagagtaca aaaattcagc taagaactca gtcctggagg ctgaatgtat 180

agctgtgtga cagacagcag ctagccatac cagagtatac acttgcctct tgctgaaaga 240

gtagatctta tgtgtccttg tcacacataa aagtaattga aaaagtaact ctctgagatg 300

acagatacgt taaaatggtt ttacttttca acctgctcca gtaggggtcc ctttaatgtt 360

tgtgctagta gatgggggac tctcaagtat ctttgtggta gacaaatcta aggtggcctt 420

catgaatacc aacccagact tttgtgactt tgtgatcccc cacttttgaa gtggataaga 480

gctgtgactt gagtctaatc aaaggagtcc aacgtgttgt ttattctgta acagtgcttt 540

gtgtttctag ttaataacac aggcaaagaa ggctagggtg acattcctag gattgtgtta 600

tttctatctt gctcatgcct ccctctgctg gtctaatgaa ataagtcagt ggccatattt 660

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tgctgcattg ggatatacat gggtgggaag caagtgtccc tgaggcagag tagcactcag 2760

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taaataaata aataaataaa taagcccaat cctcattttc ctgtctttgg gaacccttt 3060

acttccccag gtatacgcta caaagccact tctgcattga ataaacatta tctttcattc 3120

agaaaaagac ttaagaatct caccttaca aaaaaaaaaa aaaaagaatc tcacttattt 3180

tatattcaaa ttccattttt aaaaagaaaa gcacagcatt aatttttcta aatactgttt 3240

ataaaaataa cttgctctaa gaattataca aatgttttga aaggtaactt tggaaaaaaa 3300

gtgtgattag acatggatgt ttgtaagaca gaacaaagag ctcttggaag tccatggcag 3360

ctcattggtc ttgccttcag tagagcctgt ctgaatcctg taacctctta tgccctttg 3420

tagcttttct gcagatc 3437

<210> 157
<211> 340
<212> DNA
<213> Mus musculus

<400> 157
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atgaagaata ggaagattgc ctccattgat ttaatcctca caagtctggc catatccaga 120

atttgtctat tgtgcgtaat actattagat tgttttatat tggtgctata tccagatgtc 180

tatgccactg gtaaagaaat gagaatcatt gacttcttct ggacactaac caatcactta 240

agtatctggt ttgcaacctg cctcagcatt tactatttct tcaagatagg taatttcttt 300

cacccacttt tcctatgcct caagtctaga cgccaagggc 340

<210> 158
<211> 82
<212> PRT
<213> Mus musculus

<400> 158
Gly Arg Glu Trp Leu Arg Tyr Gly Arg Leu Leu Pro Leu Asp Met Ile
1 5 10 15

Leu Ile Ser Leu Gly Ala Ser Arg Phe Cys Leu Gln Leu Val Gly Thr
20 25 30

Val His Asn Phe Tyr Tyr Ser Ala Gln Lys Val Glu Tyr Ser Gly Gly
35 40 45

Leu Gly Arg Gln Phe Phe His Leu His Trp His Phe Leu Asn Ser Ala
50 55 60

```
Thr Phe Trp Phe Cys Ser Trp Leu Ser Val Leu Phe Cys Val Lys Ile
65                  70                  75                  80

Ala Asn
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<210> 159
<211> 341
<212> DNA
<213> Mus musculus

<400> 159
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ttctgcctgc agttggttgg gacggtgcac aacttctact actctgccca gaaggtcgag 180

tactctgggg gtctcggccg acagttcttc catctacact ggcacttcct gaactcagcc 240

accttctggt tttgcagctg gctcagtgtc ctgttctgtg tgaagattgc taacatcaca 300

cactccacct tcctgtgtct caagtctaga cgccaagggc g 341

<210> 160
<211> 320
<212> PRT
<213> Mus musculus

<400> 160
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Met Asp Gly Ile Val Gln Asn Met Phe Thr Phe Ile Val Ile Val Glu
1               5                  10                  15

Ile Ile Ile Gly Trp Ile Gly Asn Gly Phe Ile Ala Leu Val Asn Cys
            20                  25                  30

Ile His Trp Tyr Lys Arg Arg Lys Ile Ser Ala Leu Asn Gln Ile Leu
        35                  40                  45

Thr Ala Leu Ala Phe Ser Arg Ile Tyr Leu Leu Leu Thr Val Phe Thr
    50                  55                  60

Val Ile Ala Val Ser Thr Leu Tyr Thr His Val Leu Val Thr Arg Arg
65                  70                  75                  80

Val Val Lys Leu Ile Asn Phe His Leu Leu Phe Ser Asn His Phe Ser
                85                  90                  95

Met Trp Leu Ala Ala Cys Leu Gly Leu Tyr Tyr Phe Leu Lys Ile Ala
            100                 105                 110

His Phe Pro Asn Ser Ile Phe Val Tyr Leu Lys Met Arg Ile Asn Gln
        115                 120                 125

Val Val Ser Gly Thr Leu Leu Met Ser Leu Gly Leu Leu Phe Leu Asn
    130                 135                 140
```

```
Thr Leu Leu Ile Asn Ser Tyr Ile Asp Thr Lys Ile Asp Asp Tyr Arg
145                 150                 155                 160

Glu His Leu Leu Tyr Asp Phe Thr Ser Asn Asn Thr Ala Ser Phe Tyr
                165                 170                 175

Arg Val Ile Leu Val Ile Asn Asn Cys Ile Phe Thr Ser Ile Pro Phe
            180                 185                 190

Thr Leu Ser Gln Ser Thr Phe Leu Leu Leu Ile Phe Ser Leu Trp Arg
        195                 200                 205

His Tyr Lys Lys Met Gln Gln His Ala Gln Arg Cys Arg Asp Val Leu
    210                 215                 220

Ala Asp Ala His Ile Arg Val Leu Gln Thr Met Val Thr Tyr Val Leu
225                 230                 235                 240

Leu Cys Ala Ile Phe Phe Leu Ser Leu Ser Met Gln Ile Leu Arg Ser
                245                 250                 255

Glu Leu Leu Lys Asn Ile Leu Tyr Val Arg Phe Cys Glu Ile Val Ala
            260                 265                 270

Ala Val Phe Pro Ser Gly His Ser Cys Val Leu Ile Cys Arg Asp Thr
        275                 280                 285

Asn Leu Arg Gly Thr Phe Leu Ser Val Leu Ser Trp Leu Lys Gln Arg
    290                 295                 300

Phe Thr Ser Trp Ile Pro Asn Ile Asn Cys Arg Ser Ser Cys Ile Phe
305                 310                 315                 320
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<210> 161
<211> 1108
<212> DNA
<213> Mus musculus

<400> 161

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ttgccttaca gacaatggat ggaatcgtac agaacatgtt tacattcatt gtaattgtgg    180

aaataataat aggatggatt ggaaatggat tcatagctct ggtgaactgc atacactggt    240

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tctaccttct tttaacagta ttcactgtta tagcagtgtc tacgctatac acacacgtgt    360

tggtaactag aagagtggta aaactgatta atttccattt gcttttcagc aatcatttta    420

gcatgtggct tgctgcatgc cttggccttt attattttct taaaatagct cattttccta    480

actctatttt tgtttactta aagatgagaa ttaaccaggt ggtttcaggg actttgctca    540
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tgtctttggg cctcttgttt ctaaacactc tgctgataaa ctcatacatt gataccaaga 600

tagatgacta cagagaacat ctactgtatg atttcacttc gaataatact gcttcatttt 660

acagggttat tttagtcatt aacaactgta ttttcacatc tatacccttt acactttccc 720

agtccacttt tctcctgctc atcttctccc tgtggagaca ttacaagaag atgcaacagc 780

atgcacaaag atgcagagat gtccttgcag atgcccacat cagagtcttg caaaccatgg 840

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cttcaggaca ctcctgtgtc ttaatctgta gagacacaaa cctgagaggg acctttcttt 1020

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<210> 162
<211> 312
<212> PRT
<213> Mus musculus

<400> 162
Met Thr Tyr Glu Thr Asp Thr Thr Leu Met Leu Val Ala Val Gly Glu
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Ala Leu Val Gly Ile Leu Gly Asn Ala Phe Ile Ala Leu Val Asn Phe
20 25 30

Met Gly Trp Met Lys Asn Arg Lys Ile Ala Ser Ile Asp Leu Ile Leu
35 40 45

Ser Ser Val Ala Met Ser Arg Ile Cys Leu Gln Cys Ile Ile Leu Leu
50 55 60

Asp Cys Ile Ile Leu Val Gln Tyr Pro Asp Thr Tyr Asn Arg Gly Lys
65 70 75 80

Glu Met Arg Thr Val Asp Phe Phe Trp Thr Leu Thr Asn His Leu Ser
85 90 95

Val Trp Phe Ala Thr Cys Leu Ser Ile Phe Tyr Leu Phe Lys Ile Ala
100 105 110

Asn Phe Phe His Pro Leu Phe Leu Trp Ile Lys Trp Arg Ile Asp Lys
115 120 125

Leu Ile Leu Arg Thr Leu Leu Ala Cys Val Ile Ile Ser Leu Cys Phe
130 135 140

Ser Leu Pro Val Thr Glu Asn Leu Ser Asp Asp Phe Arg Arg Cys Val
145 150 155 160

```
Lys Thr Lys Glu Arg Ile Asn Ser Thr Leu Arg Cys Lys Val Asn Lys
                165                 170                 175

Ala Gly His Ala Ser Val Lys Val Asn Leu Asn Leu Val Met Leu Phe
            180                 185                 190

Pro Phe Ser Val Ser Leu Val Ser Phe Leu Leu Leu Ile Leu Ser Leu
        195                 200                 205

Trp Arg His Thr Arg Gln Ile Gln Leu Ser Val Thr Gly Tyr Lys Asp
    210                 215                 220

Pro Ser Thr Thr Ala His Val Lys Ala Met Lys Ala Val Ile Ser Phe
225                 230                 235                 240

Leu Ala Leu Phe Val Val Tyr Cys Leu Ala Phe Leu Ile Ala Thr Ser
                245                 250                 255

Ser Tyr Phe Met Pro Glu Ser Glu Leu Ala Val Ile Trp Gly Glu Leu
            260                 265                 270

Ile Ala Leu Ile Tyr Pro Ser Ser His Ser Phe Ile Leu Ile Leu Gly
        275                 280                 285

Ser Ser Lys Leu Lys Gln Ala Ser Val Arg Val Leu Cys Arg Val Lys
    290                 295                 300

Thr Met Leu Lys Gly Lys Lys Tyr
305                 310
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<210> 163
<211> 3775
<212> DNA
<213> Mus musculus

<400> 163

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cttagcctca gataaacagc ttgagaccat ggaaagtaat ttggtaaatt tgcatcttag    180

caaatagtag ctcagcctaa attaactgtg tgtagaaaag aatgacctgc ggagaagata    240

aatggacata caatatccag gctaaggatt gccaaacaca ctgtttttaa gactaattga    300

gatttagata aactatctac agtcttcatg tataattctc atcttcatca caagacagac    360

ttcaacttaa ggaggtaaag acaaggacag cgaaccctaa acagccaagt gtagaaacca    420

aactgcatca aatcagccag aaactaattg gatacttctc tactttaaaa tgacatacga    480

aacagatact accttaatgc ttgtagctgt tggtgaggcc ttagtaggga ttttaggaaa    540

tgcattcatt gcactggtaa acttcatggg ctggatgaag aataggaaga ttgcctctat    600

tgatttaatc ctctcaagtg tggccatgtc cagaatttgt ctacagtgta taatcctatt    660
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cgttgacttc ttctggacac ttaccaacca tttaagtgtc tggtttgcca cctgcctcag 780

cattttctat ttattcaaga tagcaaactt cttccaccct cttttcctct ggataaagtg 840

gagaattgac aagctaattc tcagaactct actggcatgt gtgattatct ccctgtgttt 900

tagcctccca gtcactgaaa atctgagtga tgatttcaga cgttgtgtta agacaaagga 960

gagaataaac tctactttga gatgcaaagt aaataaagct ggacatgcct ctgtcaaggt 1020

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cctcatcctg gggagtagta aactaaaaca agcatctgtg agggtgcttt gtagagtaaa 1380

gaccatgtta aagggaaaaa aatattagca tcatgagcat atctgaagaa aaactatcac 1440

tttctaagag aaaggaagac acgatcatta tccgtccttt tcacatgaat attgatttca 1500

tgcagtgaca tcctcttaac aaacttaaat tgaaccttga gaaatctcat atacagcaac 1560

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ctccaaatgc aaagctgcct gacaaattca aaacaattgt aacagcatct cactgtcgtt 1740

tgcattcttt ggaaaagcag gtggtttgtt cttggagcct ggcttagagt tttcttctta 1800

gaccattgaa ttatgttcat gattggagaa gagtcaagta ccaagtaaca atttttattg 1860

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tgtcatcaaa cacacaaaga tctgcctgcc tcacctgcca gttctaggat tcaaggaatg 1980

caccaccaca gcttgttcaa gtgacaattc ttacaaatgt tttagaaata aataatatac 2040

tagaaattaa cactgaatgt aagtgctgtt taggtataaa ttatgattaa atgttatagt 2100

tagaaaatta tttaagatta tagatcagtg atgaaaatat tctagaataa gttttatgaa 2160

gaaactttta taaagaaact ggaaaaaaat ctcttgattg catattgaaa caaatttctc 2220

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agtcatgtca ttagcaaaaa cataaacaga attggaggtc attgtgataa ttgaaataaa 2580

ccagacctgg aaaaaacaaa acctgtgtaa tttttctgaa gtagagaata tactcttgga 2640

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gtgaaagaaa aaggcaatga caaggagtaa tgatatgagc aaagtaccat tattaaacat 2820

gtgacaatat tatatagaaa cacatgattt tgtgtgccta ccaaaactgg ataataattt 2880

ttaaaatgta tctattaaaa ggaaagaaaa gaaagtgcaa gcccaggaaa gggagaaaag 2940

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aagtgtggcc aggaatgaag gatctcagct atagttatcc cagtacggta atacaaatct 3060

gtgactccag cacttgacaa ggctgagaga tgtgagagag ggccagttaa caaccagtct 3120

gggcttattc caagagataa gaagattggg ggaaagtatg tagaagggtt tggagggaag 3180

agagagaaga gggaaatgat gtaatgatag tacaaatcaa aagttatttt ttctaaaaaa 3240

gcaatgggac aggaaaccaa cctaacaagt aaaggtgctt ggttcacaag accagcaacc 3300

tgagtgcatc cttgctagaa tgaaattggc cttactctgg aaagcttact tcctcagtgt 3360

attcattgtt aaaattcatg tggagatttt aaagaaaaaa ggaaaaaaaa agttaaatgg 3420

tagatttgtg taggggaata ttcccctaat taattgatta gataataaag atgacaagca 3480

aattgctgtg caaaaaggaa gacaaggtct aagaggggaa gaggggacac gggaggaaaa 3540

aaaacggccc tttttaaagc aaggtgggga gtgagggaag cgagatgtag acagggaact 3600

gttagacctg gtggcagctt ctgccacctg aagattttca acatagtata gttcatgagt 3660

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<210> 164
<211> 310
<212> PRT
<213> Mus musculus

<400> 164
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Lys Ile Thr Phe Ile Asn Phe Ile Met Val Cys Leu Ala Ala Ser Arg
        35                  40                  45

Ile Ser Ser Val Leu Met Leu Phe Ile Asp Ala Thr Ile Gln Glu Leu
    50                  55                  60

Ala Pro His Phe Tyr Tyr Ser Tyr Arg Leu Val Lys Cys Ser Asp Ile
65                  70                  75                  80

Phe Trp Val Ile Thr Asp Gln Leu Ser Thr Trp Leu Ala Thr Cys Leu
                85                  90                  95

Ser Ile Phe Tyr Leu Phe Lys Val Ala His Ile Ser His Pro Leu Phe
            100                 105                 110

Leu Trp Leu Lys Trp Arg Leu Arg Gly Val Leu Val Val Phe Leu Val
        115                 120                 125

Phe Ser Leu Phe Leu Leu Ile Ser Tyr Phe Leu Leu Leu Glu Thr Leu
    130                 135                 140

Pro Ile Trp Gly Asp Ile Tyr Val Thr Leu Lys Asn Asn Leu Thr Leu
145                 150                 155                 160

Phe Ser Gly Thr Ile Lys Thr Thr Ala Phe Gln Lys Ile Ile Val Phe
                165                 170                 175

Asp Ile Ile Tyr Leu Val Pro Phe Leu Val Ser Leu Ala Ser Leu Leu
            180                 185                 190

Leu Leu Phe Leu Ser Leu Val Lys His Ser Arg Ser Leu Asp Leu Ile
        195                 200                 205

Ser Thr Thr Ser Glu Asp Ser Arg Thr Lys Ile His Lys Lys Ala Met
    210                 215                 220

Lys Met Leu Val Ser Phe Leu Ile Leu Phe Ile Ile His Ile Phe Phe
225                 230                 235                 240

Met Gln Leu Ala Arg Trp Leu Leu Phe Leu Phe Pro Met Ser Arg Pro
                245                 250                 255

Ile Asn Phe Ile Leu Thr Leu Asn Ile Phe Ala Leu Thr His Ser Phe
            260                 265                 270

Ile Leu Ile Leu Gly Asn Ser Asn Leu Arg Gln Arg Ala Met Arg Ile
        275                 280                 285

Leu Gln His Leu Lys Ser Gln Leu Gln Glu Leu Ile Leu Ser Leu His
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Arg Phe Ser Ser Leu Tyr
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<210> 165
<211> 4675
<212> DNA
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ataaaacacc aatgctaagg caatccatta tgttttctca tgaggagccc atatgtacac 240

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acactaccat gagatgctca ttctgtaatt gttccccgga ataggaaatg ccctgaattc 480

aggcacacaa gagctagtct gtgcaccatg tctggttctt gcattaatac ccacttttgt 540

cacgaagctt cattgattcg catcttcaga agctggtatc attattagtt tctttcctca 600

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<210> 166
<211> 20
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic T2R
Family Consensus Sequence 1

<220>
<221> MOD_RES
<222> (2)
<223> Phe or Ala

<220>
<221> MOD_RES
<222> (3)
<223> Ile, Val or Leu

<220>
<221> MOD_RES
<222> (4)
<223> Val or Leu

<220>
<221> MOD_RES
<222> (6)
<223> Ile or Val

<220>
<221> MOD_RES
<222> (7)
<223> Leu or Val

<220>
<221> MOD_RES
<222> (10)
<223> Gly or Thr

<220>
<221> MOD_RES
<222> (13)
<223> Val or Ala

<220>
<221> MOD_RES
<222> (18)
<223> Ile or Met

<400> 166
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1 5 10 15

Cys Xaa Asp Trp
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<210> 167
<211> 14
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic T2R Family Consensus Sequence 2

<220>
<221> MOD_RES
<222> (1)
<223> Asp or Gly

<220>
<221> MOD_RES
<222> (2)
<223> Phe or Leu

<220>
<221> MOD_RES
<222> (3)
<223> Ile or Leu

<220>
<221> MOD_RES
<222> (5)
<223> Thr or Ile

<220>
<221> MOD_RES
<222> (6)
<223> Gly, Ala or Ser

<220>
<221> MOD_RES
<222> (13)
<223> Cys, Gly or Phe

<400> 167
Xaa Xaa Xaa Leu Xaa Xaa Leu Ala Ile Ser Arg Ile Xaa Leu
1 5 10

<210> 168
<211> 13
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic T2R Family Consensus Sequence 3

<220>
<221> MOD_RES
<222> (3)
<223> Leu or Phe

<220>
<221> MOD_RES
<222> (4)
<223> Ser, Thr or Asn

<220>
<221> MOD_RES
<222> (5)
<223> Leu, Ile or Val

<220>
<221> MOD_RES
<222> (7)
<223> Phe or Leu

<220>
<221> MOD_RES
<222> (8)
<223> Ala or Thr

<220>
<221> MOD_RES
<222> (10)
<223> Cys, Ser or Asn

<220>
<221> MOD_RES
<222> (12)
<223> Ser, Asn or Gly

<220>
<221> MOD_RES
<222> (13)
<223> Ile or Val

<400> 168
Asn His Xaa Xaa Xaa Trp Xaa Xaa Thr Xaa Leu Xaa Xaa
1 5 10

<210> 169
<211> 18
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic T2R
Family Consensus Sequence 4

<220>
<221> MOD_RES
<222> (2)
<223> Phe or Cys

<220>
<221> MOD_RES
<222> (7)
<223> Asn or Ser

<220>
<221> MOD_RES
<222> (10)
<223> His or Asn

<220>
<221> MOD_RES
<222> (11)
<223> Pro or Ser

<220>
<221> MOD_RES
<222> (12)
<223> Leu, Ile or Val

<220>
<221> MOD_RES
<222> (15)
<223> Trp or Tyr

<400> 169
Phe Tyr Xaa Leu Lys Ile Ala Xaa Phe Ser Xaa Xaa Xaa Phe Leu Xaa
1 5 10 15

Leu Lys

<210> 170
<211> 14
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic T2R
Family Consensus Sequence 5

<220>
<221> MOD_RES
<222> (4)
<223> Ile, Phe or Val

<220>
<221> MOD_RES
<222> (8)
<223> Lys or Arg

<220>
<221> MOD_RES
<222> (10)
<223> Ser or Thr

<220>
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<222> (11)
<223> Lys or Arg

<220>
<221> MOD_RES
<222> (12)
<223> Gln or Lys

<220>
<221> MOD_RES
<222> (13)
<223> Met or Ile

<220>
<221> MOD_RES
<222> (14)
<223> Gln or Lys

<400> 170
Leu Leu Ile Xaa Ser Leu Trp Xaa His Xaa Xaa Xaa Xaa Xaa
1 5 10

<210> 171
<211> 14
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic T2R Family Consensus Sequence 6

<220>
<221> MOD_RES
<222> (3)
<223> Phe or Leu

<220>
<221> MOD_RES
<222> (4)
<223> Ile or Val

<220>
<221> MOD_RES
<222> (7)
<223> Leu or Met

<220>
<221> MOD_RES
<222> (8)
<223> Gly, Ser or Thr

<220>
<221> MOD_RES
<222> (10)
<223> Pro, Ser or Asn

<220>
<221> MOD_RES
<222> (13)
<223> Lys or Arg

<220>
<221> MOD_RES
<222> (14)
<223> Gln or Arg

<400> 171
His Ser Xaa Xaa Leu Ile Xaa Xaa Asn Xaa Lys Leu Xaa Xaa
1 5 10

<210> 172
<211> 1002
<212> DNA
<213> Homo sapiens

<400> 172
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ttttgggatg tagtgaagag gcaggcactg agcaacagtg attgtgtgct gctgtgtctc 180

agcatcagcc ggcttttcct gcatggactg ctgttcctga gtgctatcca gcttacccac 240

ttccagaagt tgagtgaacc actgaaccac agctaccaag ccatcatcat gctatggatg 300

attgcaaacc aagccaacct ctggcttgct gcctgcctca gcctgcttta ctgctccaag 360

ctcatccgtt tctctcacac cttcctgatc tgcttggcaa gctgggtctc caggaagatc 420

tcccagatgc tcctgggtat tattctttgc tcctgcatct gcactgtcct ctgtgtttgg 480

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ggaaggcaca tgaggacaat gaaggtctat accagaaact ctcgtgaccc cagcctggag 720

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tgtgttgcct tcatctctgt gcccctactg attctgtggc gcgacaaaat aggggtgatg 840

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gtaagagccg accacaaggc agattcccgg acactgtgct ga 1002

<210> 173
<211> 333
<212> PRT
<213> Homo sapiens

<400> 173
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Thr Phe Leu Phe Ile Ser Val Leu Glu Phe Ala Val Gly Phe Leu Thr
20 25 30

Asn Ala Phe Val Phe Leu Val Asn Phe Trp Asp Val Val Lys Arg Gln
35 40 45

Ala Leu Ser Asn Ser Asp Cys Val Leu Leu Cys Leu Ser Ile Ser Arg
50 55 60

Leu Phe Leu His Gly Leu Leu Phe Leu Ser Ala Ile Gln Leu Thr His
65 70 75 80

Phe Gln Lys Leu Ser Glu Pro Leu Asn His Ser Tyr Gln Ala Ile Ile
85 90 95

Met Leu Trp Met Ile Ala Asn Gln Ala Asn Leu Trp Leu Ala Ala Cys
100 105 110

Leu Ser Leu Leu Tyr Cys Ser Lys Leu Ile Arg Phe Ser His Thr Phe
115 120 125

Leu Ile Cys Leu Ala Ser Trp Val Ser Arg Lys Ile Ser Gln Met Leu
130 135 140

Leu Gly Ile Ile Leu Cys Ser Cys Ile Cys Thr Val Leu Cys Val Trp
145 150 155 160

Cys Phe Phe Ser Arg Pro His Phe Thr Val Thr Thr Val Leu Phe Met
165 170 175

Asn Asn Asn Thr Arg Leu Asn Trp Gln Ile Lys Asp Leu Asn Leu Phe
180 185 190

Tyr Ser Phe Leu Phe Cys Tyr Leu Trp Ser Val Pro Pro Phe Leu Leu
195 200 205

Phe Leu Val Ser Ser Gly Met Leu Thr Val Ser Leu Gly Arg His Met
210 215 220

Arg Thr Met Lys Val Tyr Thr Arg Asn Ser Arg Asp Pro Ser Leu Glu
225 230 235 240

Ala His Ile Lys Ala Leu Lys Ser Leu Val Ser Phe Phe Cys Phe Phe
245 250 255

Val Ile Ser Ser Cys Val Ala Phe Ile Ser Val Pro Leu Leu Ile Leu
260 265 270

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Trp Arg Asp Lys Ile Gly Val Met Val Cys Val Gly Ile Met Ala Ala
        275                 280                 285

Cys Pro Ser Gly His Ala Ala Ile Leu Ile Ser Gly Asn Ala Lys Leu
    290                 295                 300

Arg Arg Ala Val Met Thr Ile Leu Leu Trp Ala Gln Ser Ser Leu Lys
305                 310                 315                 320

Val Arg Ala Asp His Lys Ala Asp Ser Arg Thr Leu Cys
             325                 330
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<210> 174
<211> 966
<212> DNA
<213> Homo sapiens

<400> 174

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atattcttaa atttttgtag cctgtggttt gctgcctggc tcagtttctt ctactttgtg    360

aagattgcca atttctccta ccccctttc ctcaaactga ggtggagaat tactggattg     420

ataccctggc ttctgtggct gtccgtgttt atttccttca gtcacagcat gttctgcatc    480

aacatctgca ctgtgtattg taacaattct ttccctatcc actcctccaa ctccactaag    540

aaaacatact tgtctgagat caatgtggtc ggtctggctt ttttctttaa cctggggatt    600

gtgactcctc tgatcatgtt catcctgaca gccaccctgc tgatcctctc tctcaagaga    660

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<210> 175
<211> 321
<212> PRT
<213> Homo sapiens

<400> 175

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            20                  25                  30

Ile Ala Asn Gly Phe Ile Met Ala Ile His Ala Ala Glu Trp Val Gln
        35                  40                  45

Asn Lys Ala Val Ser Thr Ser Gly Arg Ile Leu Val Phe Leu Ser Val
    50                  55                  60

Ser Arg Ile Ala Leu Gln Ser Leu Met Met Leu Glu Ile Thr Ile Ser
65                  70                  75                  80

Ser Thr Ser Leu Ser Phe Tyr Ser Glu Asp Ala Val Tyr Tyr Ala Phe
                85                  90                  95

Lys Ile Ser Phe Ile Phe Leu Asn Phe Cys Ser Leu Trp Phe Ala Ala
            100                 105                 110

Trp Leu Ser Phe Phe Tyr Phe Val Lys Ile Ala Asn Phe Ser Tyr Pro
        115                 120                 125

Leu Phe Leu Lys Leu Arg Trp Arg Ile Thr Gly Leu Ile Pro Trp Leu
    130                 135                 140

Leu Trp Leu Ser Val Phe Ile Ser Phe Ser His Ser Met Phe Cys Ile
145                 150                 155                 160

Asn Ile Cys Thr Val Tyr Cys Asn Asn Ser Phe Pro Ile His Ser Ser
                165                 170                 175

Asn Ser Thr Lys Lys Thr Tyr Leu Ser Glu Ile Asn Val Val Gly Leu
            180                 185                 190

Ala Phe Phe Phe Asn Leu Gly Ile Val Thr Pro Leu Ile Met Phe Ile
        195                 200                 205

Leu Thr Ala Thr Leu Leu Ile Leu Ser Leu Lys Arg His Thr Leu His
    210                 215                 220

Met Gly Ser Asn Ala Thr Gly Ser Asn Asp Pro Ser Met Glu Ala His
225                 230                 235                 240

Met Gly Ala Ile Lys Ala Ile Ser Tyr Phe Leu Ile Leu Tyr Ile Phe
                245                 250                 255

Asn Ala Val Ala Leu Phe Ile Tyr Leu Ser Asn Met Phe Asp Ile Asn
            260                 265                 270

Ser Leu Trp Asn Asn Leu Cys Gln Ile Ile Met Ala Ala Tyr Pro Ala
        275                 280                 285

Ser His Ser Ile Leu Leu Ile Gln Asp Asn Pro Gly Leu Arg Arg Ala
    290                 295                 300
```

Trp Lys Arg Leu Gln Leu Arg Leu His Leu Tyr Pro Lys Glu Trp Thr
305 310 315 320

Leu

<210> 176
<211> 972
<212> DNA
<213> Homo sapiens

<400> 176
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actttggtgg tctccggaat agagtgcatc actggcatcc ttgggagtgg cttcatcacg 120

gccatctatg gggctgagtg ggccaggggc aaaacactcc ccactggtga ccgcattatg 180

ttgatgctga gcttttccag gctcttgcta cagatttgga tgatgctgga gaacattttc 240

agtctgctat tccgaattgt ttataaccaa aactcagtgt atatcctctt caaagtcatc 300

actgtctttc tgaaccattc caatctctgg tttgctgcct ggctcaaagt cttctattgt 360

cttagaattg caaacttcaa tcatcctttg ttcttcctga tgaagaggaa aatcatagtg 420

ctgatgcctt ggcttctcag gctgtcagtg ttggtttcct taagcttcag ctttcctctc 480

tcgagagatg tcttcaatgt gtatgtgaat agctccattc ctatcccctc ctccaactcc 540

acggagaaga agtacttctc tgagaccaat atggtcaacc tggtattttt ctataacatg 600

gggatcttcg ttcctctgat catgttcatc ctggcagcca ccctgctgat cctctctctc 660

aagagacaca ccctacacat gggaagcaat gccacagggt ccagggaccc cagcatgaag 720

gctcacatag gggccatcaa agccaccagc tactttctca tcctctacat tttcaatgca 780

attgctctat ttctttccac gtccaacatc tttgacactt acagttcctg gaatattttg 840

tgcaagatca tcatggctgc ctaccctgcc ggccactcag tacaactgat cttgggcaac 900

cctgggctga gaagagcctg gaagcggttt cagcaccaag ttcctcttta cctaaaaggg 960

cagactctgt ga 972

<210> 177
<211> 323
<212> PRT
<213> Homo sapiens

<400> 177
Met Ala Thr Val Asn Thr Asp Ala Thr Asp Lys Asp Ile Ser Lys Phe
1 5 10 15

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Lys Val Thr Phe Thr Leu Val Val Ser Gly Ile Glu Cys Ile Thr Gly
            20                  25                  30

Ile Leu Gly Ser Gly Phe Ile Thr Ala Ile Tyr Gly Ala Glu Trp Ala
        35                  40                  45

Arg Gly Lys Thr Leu Pro Thr Gly Asp Arg Ile Met Leu Met Leu Ser
    50                  55                  60

Phe Ser Arg Leu Leu Leu Gln Ile Trp Met Met Leu Glu Asn Ile Phe
65                  70                  75                  80

Ser Leu Leu Phe Arg Ile Val Tyr Asn Gln Asn Ser Val Tyr Ile Leu
                85                  90                  95

Phe Lys Val Ile Thr Val Phe Leu Asn His Ser Asn Leu Trp Phe Ala
            100                 105                 110

Ala Trp Leu Lys Val Phe Tyr Cys Leu Arg Ile Ala Asn Phe Asn His
        115                 120                 125

Pro Leu Phe Phe Leu Met Lys Arg Lys Ile Ile Val Leu Met Pro Trp
    130                 135                 140

Leu Leu Arg Leu Ser Val Leu Val Ser Leu Ser Phe Ser Phe Pro Leu
145                 150                 155                 160

Ser Arg Asp Val Phe Asn Val Tyr Val Asn Ser Ser Ile Pro Ile Pro
                165                 170                 175

Ser Ser Asn Ser Thr Glu Lys Lys Tyr Phe Ser Glu Thr Asn Met Val
            180                 185                 190

Asn Leu Val Phe Phe Tyr Asn Met Gly Ile Phe Val Pro Leu Ile Met
        195                 200                 205

Phe Ile Leu Ala Ala Thr Leu Leu Ile Leu Ser Leu Lys Arg His Thr
    210                 215                 220

Leu His Met Gly Ser Asn Ala Thr Gly Ser Arg Asp Pro Ser Met Lys
225                 230                 235                 240

Ala His Ile Gly Ala Ile Lys Ala Thr Ser Tyr Phe Leu Ile Leu Tyr
                245                 250                 255

Ile Phe Asn Ala Ile Ala Leu Phe Leu Ser Thr Ser Asn Ile Phe Asp
            260                 265                 270

Thr Tyr Ser Ser Trp Asn Ile Leu Cys Lys Ile Ile Met Ala Ala Tyr
        275                 280                 285

Pro Ala Gly His Ser Val Gln Leu Ile Leu Gly Asn Pro Gly Leu Arg
    290                 295                 300

Arg Ala Trp Lys Arg Phe Gln His Gln Val Pro Leu Tyr Leu Lys Gly
305                 310                 315                 320

Gln Thr Leu
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<210> 178
<211> 930
<212> DNA
<213> Homo sapiens

<400> 178
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aattttgcta atggcttcat agcactggta aattccattg agtggttcaa gagacaaaag 120

atctcctttg ctgaccaaat tctcactgct ctggcggtct ccagagttgg tttgctctgg 180

gtattattat taaactggta ttcaactgtg ttgaatccag cttttaatag tgtagaagta 240

agaactactg cttataatat ctgggcagtg atcaaccatt tcagcaactg gcttgctact 300

accctcagca tattttattt gctcaagatt gccaatttct ccaactttat ttttcttcac 360

ttaaagagga gagttaagag tgtcattctg gtgatgttgt tggggccttt gctatttttg 420

gcttgtcatc tttttgtgat aaacatgaat gagattgtgc ggacaaaaga atttgaagga 480

aacatgactt ggaagatcaa attgaagagt gcaatgtact tttcaaatat gactgtaacc 540

atggtagcaa acttagtacc cttcactctg accctactat cttttatgct gttaatctgt 600

tctttgtgta aacatctcaa gaagatgcag ctccatggta aaggatctca agatcccagc 660

accaaggtcc acataaaagc tttgcaaact gtgatctcct tcctcttgtt atgtgccatt 720

tactttctgt ccataatgat atcagtttgg agttttggaa gtctggaaaa caaacctgtc 780

ttcatgttct gcaaagctat tagattcagc tatccttcaa tccacccatt catcctgatt 840

tggggaaaca agaagctaaa gcagactttt ctttcagttt tttggcaaat gaggtactgg 900

gtgaaaggag agaagacttc atctccatag 930

<210> 179
<211> 309
<212> PRT
<213> Homo sapiens

<400> 179
Met Ile Thr Phe Leu Pro Ile Ile Phe Ser Ser Leu Val Val Val Thr
1 5 10 15

Phe Val Ile Gly Asn Phe Ala Asn Gly Phe Ile Ala Leu Val Asn Ser
20 25 30

Ile Glu Trp Phe Lys Arg Gln Lys Ile Ser Phe Ala Asp Gln Ile Leu
35 40 45

Thr Ala Leu Ala Val Ser Arg Val Gly Leu Leu Trp Val Leu Leu Leu
50 55 60

```
Asn Trp Tyr Ser Thr Val Leu Asn Pro Ala Phe Asn Ser Val Glu Val
65                  70                  75                  80

Arg Thr Thr Ala Tyr Asn Ile Trp Ala Val Ile Asn His Phe Ser Asn
                85                  90                  95

Trp Leu Ala Thr Thr Leu Ser Ile Phe Tyr Leu Leu Lys Ile Ala Asn
            100                 105                 110

Phe Ser Asn Phe Ile Phe Leu His Leu Lys Arg Arg Val Lys Ser Val
        115                 120                 125

Ile Leu Val Met Leu Leu Gly Pro Leu Leu Phe Leu Ala Cys His Leu
    130                 135                 140

Phe Val Ile Asn Met Asn Glu Ile Val Arg Thr Lys Glu Phe Glu Gly
145                 150                 155                 160

Asn Met Thr Trp Lys Ile Lys Leu Lys Ser Ala Met Tyr Phe Ser Asn
                165                 170                 175

Met Thr Val Thr Met Val Ala Asn Leu Val Pro Phe Thr Leu Thr Leu
            180                 185                 190

Leu Ser Phe Met Leu Leu Ile Cys Ser Leu Cys Lys His Leu Lys Lys
        195                 200                 205

Met Gln Leu His Gly Lys Gly Ser Gln Asp Pro Ser Thr Lys Val His
    210                 215                 220

Ile Lys Ala Leu Gln Thr Val Ile Ser Phe Leu Leu Leu Cys Ala Ile
225                 230                 235                 240

Tyr Phe Leu Ser Ile Met Ile Ser Val Trp Ser Phe Gly Ser Leu Glu
                245                 250                 255

Asn Lys Pro Val Phe Met Phe Cys Lys Ala Ile Arg Phe Ser Tyr Pro
            260                 265                 270

Ser Ile His Pro Phe Ile Leu Ile Trp Gly Asn Lys Lys Leu Lys Gln
        275                 280                 285

Thr Phe Leu Ser Val Phe Trp Gln Met Arg Tyr Trp Val Lys Gly Glu
    290                 295                 300

Lys Thr Ser Ser Pro
305
```

<210> 180
<211> 930
<212> DNA
<213> Homo sapiens

<400> 180
atgatgagtt ttctacacat tgtttttcc attctagtag tggttgcatt tattcttgga 60

aattttgcca atggctttat agcactgata aatttcattg cctgggtcaa gagacaaaag 120

atctcctcag ctgatcaaat tattgctgct ctggcagtct ccagagttgg tttgctctgg 180

gtaatattat tacattggta ttcaactgtg ttgaatccaa cttcatctaa tttaaaagta 240

ataattttta tttctaatgc ctgggcagta accaatcatt tcagcatctg gcttgctact 300

agcctcagca tattttattt gctcaagatc gtcaatttct ccagacttat ttttcatcac 360

ttaaaaagga aggctaagag tgtagttctg gtgatagtgt tggggtcttt gttcttttg 420

gtttgtcacc ttgtgatgaa acacacgtat ataaatgtgt ggacagaaga atgtgaagga 480

aacgtaactt ggaagatcaa actgaggaat gcaatgcacc tttccaactt gactgtagcc 540

atgctagcaa acttgatacc attcactctg accctgatat cttttctgct gttaatctac 600

tctctgtgta aacatctgaa gaagatgcag ctccatggca aaggatctca agatcccagc 660

accaagatcc acataaaagc tctgcaaact gtgacctcct tcctcatatt acttgccatt 720

tactttctgt gtctaatcat atcgttttgg aattttaaga tgcgaccaaa agaaattgtc 780

ttaatgcttt gccaagcttt tggaatcata tatccatcat tccactcatt cattctgatt 840

tgggggaaca agacgctaaa gcagaccttt ctttcagttt tgtggcaggt gacttgctgg 900

gcaaaaggac agaaccagtc aactccatag 930

<210> 181
<211> 309
<212> PRT
<213> Homo sapiens

<400> 181

Met	Met	Ser	Phe	Leu	His	Ile	Val	Phe	Ser	Ile	Leu	Val	Val	Val	Ala
1				5				10						15	
Phe	Ile	Leu	Gly	Asn	Phe	Ala	Asn	Gly	Phe	Ile	Ala	Leu	Ile	Asn	Phe
			20					25					30		
Ile	Ala	Trp	Val	Lys	Arg	Gln	Lys	Ile	Ser	Ser	Ala	Asp	Gln	Ile	Ile
		35					40					45			
Ala	Ala	Leu	Ala	Val	Ser	Arg	Val	Gly	Leu	Leu	Trp	Val	Ile	Leu	Leu
	50					55					60				
His	Trp	Tyr	Ser	Thr	Val	Leu	Asn	Pro	Thr	Ser	Ser	Asn	Leu	Lys	Val
65					70					75					80
Ile	Ile	Phe	Ile	Ser	Asn	Ala	Trp	Ala	Val	Thr	Asn	His	Phe	Ser	Ile
				85					90					95	
Trp	Leu	Ala	Thr	Ser	Leu	Ser	Ile	Phe	Tyr	Leu	Leu	Lys	Ile	Val	Asn
			100					105					110		

```
Phe Ser Arg Leu Ile Phe His His Leu Lys Arg Lys Ala Lys Ser Val
        115                 120                 125

Val Leu Val Ile Val Leu Gly Ser Leu Phe Phe Leu Val Cys His Leu
    130                 135                 140

Val Met Lys His Thr Tyr Ile Asn Val Trp Thr Glu Glu Cys Glu Gly
145                 150                 155                 160

Asn Val Thr Trp Lys Ile Lys Leu Arg Asn Ala Met His Leu Ser Asn
                165                 170                 175

Leu Thr Val Ala Met Leu Ala Asn Leu Ile Pro Phe Thr Leu Thr Leu
            180                 185                 190

Ile Ser Phe Leu Leu Leu Ile Tyr Ser Leu Cys Lys His Leu Lys Lys
        195                 200                 205

Met Gln Leu His Gly Lys Gly Ser Gln Asp Pro Ser Thr Lys Ile His
    210                 215                 220

Ile Lys Ala Leu Gln Thr Val Thr Ser Phe Leu Ile Leu Leu Ala Ile
225                 230                 235                 240

Tyr Phe Leu Cys Leu Ile Ile Ser Phe Trp Asn Phe Lys Met Arg Pro
                245                 250                 255

Lys Glu Ile Val Leu Met Leu Cys Gln Ala Phe Gly Ile Ile Tyr Pro
            260                 265                 270

Ser Phe His Ser Phe Ile Leu Ile Trp Gly Asn Lys Thr Leu Lys Gln
        275                 280                 285

Thr Phe Leu Ser Val Leu Trp Gln Val Thr Cys Trp Ala Lys Gly Gln
    290                 295                 300

Asn Gln Ser Thr Pro
305
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<210> 182
<211> 930
<212> DNA
<213> Homo sapiens

<400> 182
atgacaactt ttatacccat catttttcc agtgtggtag tggttctatt tgttattgga 60

aattttgcta atggcttcat agcattggta aattccattg agcgggtcaa gagacaaaag 120

atctcttttg ctgaccagat tctcactgct ctggcggtct ccagagttgg tttgctctgg 180

gtattattat taaattggta ttcaactgtg tttaatccag ctttttatag tgtagaagta 240

agaactactg cttataatgt ctgggcagta accggccatt tcagcaactg gcttgctact 300

agcctcagca tattttattt gctcaagatt gccaatttct ccaaccttat ttttcttcac 360

ttaaagagga gagttaagag tgtcattctg gtgatgctgt tggggccttt actatttttg 420

gcttgtcaac tttttgtgat aaacatgaaa gagattgtac ggacaaaaga atatgaagga 480

aacttgactt ggaagatcaa attgaggagt gcagtgtacc tttcagatgc gactgtaacc 540

acgctaggaa acttagtgcc cttcactctg accctgctat gtttttgct gttaatctgt 600

tctctgtgta aacatctcaa gaagatgcag ctccatggta aaggatctca agatcccagc 660

accaaggtcc acataaaagc tttgcaaact gtgatctttt tcctcttgtt atgtgccgtt 720

tactttctgt ccataatgat atcagtttgg agttttggga gtctggaaaa caaacctgtc 780

ttcatgttct gcaaagctat tagattcagc tatccttcaa tccacccatt catcctgatt 840

tggggaaaca agaagctaaa gcagactttt ctttcagttt tgcggcaagt gaggtactgg 900

gtgaaaggag agaagccttc atctccatag 930

<210> 183
<211> 309
<212> PRT
<213> Homo sapiens

<400> 183

Met	Thr	Thr	Phe	Ile	Pro	Ile	Ile	Phe	Ser	Ser	Val	Val	Val	Val	Leu
1				5					10					15	
Phe	Val	Ile	Gly	Asn	Phe	Ala	Asn	Gly	Phe	Ile	Ala	Leu	Val	Asn	Ser
			20					25					30		
Ile	Glu	Arg	Val	Lys	Arg	Gln	Lys	Ile	Ser	Phe	Ala	Asp	Gln	Ile	Leu
		35					40					45			
Thr	Ala	Leu	Ala	Val	Ser	Arg	Val	Gly	Leu	Leu	Trp	Val	Leu	Leu	Leu
	50					55					60				
Asn	Trp	Tyr	Ser	Thr	Val	Phe	Asn	Pro	Ala	Phe	Tyr	Ser	Val	Glu	Val
65					70					75					80
Arg	Thr	Thr	Ala	Tyr	Asn	Val	Trp	Ala	Val	Thr	Gly	His	Phe	Ser	Asn
			85					90					95		
Trp	Leu	Ala	Thr	Ser	Leu	Ser	Ile	Phe	Tyr	Leu	Leu	Lys	Ile	Ala	Asn
		100					105					110			
Phe	Ser	Asn	Leu	Ile	Phe	Leu	His	Leu	Lys	Arg	Arg	Val	Lys	Ser	Val
	115					120					125				
Ile	Leu	Val	Met	Leu	Leu	Gly	Pro	Leu	Leu	Phe	Leu	Ala	Cys	Gln	Leu
130					135					140					
Phe	Val	Ile	Asn	Met	Lys	Glu	Ile	Val	Arg	Thr	Lys	Glu	Tyr	Glu	Gly
145					150					155					160

Asn Leu Thr Trp Lys Ile Lys Leu Arg Ser Ala Val Tyr Leu Ser Asp
165 170 175

Ala Thr Val Thr Thr Leu Gly Asn Leu Val Pro Phe Thr Leu Thr Leu
180 185 190

Leu Cys Phe Leu Leu Leu Ile Cys Ser Leu Cys Lys His Leu Lys Lys
195 200 205

Met Gln Leu His Gly Lys Gly Ser Gln Asp Pro Ser Thr Lys Val His
210 215 220

Ile Lys Ala Leu Gln Thr Val Ile Phe Phe Leu Leu Leu Cys Ala Val
225 230 235 240

Tyr Phe Leu Ser Ile Met Ile Ser Val Trp Ser Phe Gly Ser Leu Glu
245 250 255

Asn Lys Pro Val Phe Met Phe Cys Lys Ala Ile Arg Phe Ser Tyr Pro
260 265 270

Ser Ile His Pro Phe Ile Leu Ile Trp Gly Asn Lys Lys Leu Lys Gln
275 280 285

Thr Phe Leu Ser Val Leu Arg Gln Val Arg Tyr Trp Val Lys Gly Glu
290 295 300

Lys Pro Ser Ser Pro
305

<210> 184
<211> 900
<212> DNA
<213> Homo sapiens

<400> 184
atgatgtgtt ttctgctcat catttcatca attctggtag tgtttgcatt tgttcttgga 60

aatgttgcca atggcttcat agccctagta aatgtcattg actgggttaa cacacgaaag 120

atctcctcag ctgagcaaat tctcactgct ctggtggtct ccagaattgg tttactctgg 180

gtcatgttat tcctttggta tgcaactgtg tttaattctg ctttatatgg tttagaagta 240

agaattgttg cttctaatgc ctgggctgta acgaaccatt tcagcatgtg gcttgctgct 300

agcctcagca tattttgttt gctcaagatt gccaatttct ccaaccttat ttctctccac 360

ctaaagaaga gaattaagag tgttgttctg gtgatactgt tggggccctt ggtatttctg 420

atttgtaatc ttgctgtgat aaccatggat gagagagtgt ggacaaaaga atatgaagga 480

aatgtgactt ggaagatcaa attgaggaat gcaatacacc tttcaagctt gactgtaact 540

actctagcaa acctcatacc ctttactctg agcctaatat gttttctgct gttaatctgt 600

tctctttgta aacatctcaa gaagatgcgg ctccatagca aaggatctca agatcccagc 660

accaaggtcc atataaaagc tttgcaaact gtgacctcct tcctcatgtt atttgccatt 720

tactttctgt gtataatcac atcaacttgg aatcttagga cacagcagag caaacttgta 780

ctcctgcttt gccaaactgt tgcaatcatg tatccttcat tccactcatt catcctgatt 840

atgggaagta ggaagctaaa acagaccttt ctttcagttt tgtggcagat gacacgctga 900

<210> 185
<211> 299
<212> PRT
<213> Homo sapiens

<400> 185

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Met Met Cys Phe Leu Leu Ile Ile Ser Ser Ile Leu Val Val Phe Ala
1               5                  10                  15

Phe Val Leu Gly Asn Val Ala Asn Gly Phe Ile Ala Leu Val Asn Val
            20                  25                  30

Ile Asp Trp Val Asn Thr Arg Lys Ile Ser Ser Ala Glu Gln Ile Leu
        35                  40                  45

Thr Ala Leu Val Val Ser Arg Ile Gly Leu Leu Trp Val Met Leu Phe
    50                  55                  60

Leu Trp Tyr Ala Thr Val Phe Asn Ser Ala Leu Tyr Gly Leu Glu Val
65                  70                  75                  80

Arg Ile Val Ala Ser Asn Ala Trp Ala Val Thr Asn His Phe Ser Met
                85                  90                  95

Trp Leu Ala Ala Ser Leu Ser Ile Phe Cys Leu Leu Lys Ile Ala Asn
            100                 105                 110

Phe Ser Asn Leu Ile Ser Leu His Leu Lys Lys Arg Ile Lys Ser Val
        115                 120                 125

Val Leu Val Ile Leu Leu Gly Pro Leu Val Phe Leu Ile Cys Asn Leu
    130                 135                 140

Ala Val Ile Thr Met Asp Glu Arg Val Trp Thr Lys Glu Tyr Glu Gly
145                 150                 155                 160

Asn Val Thr Trp Lys Ile Lys Leu Arg Asn Ala Ile His Leu Ser Ser
                165                 170                 175

Leu Thr Val Thr Thr Leu Ala Asn Leu Ile Pro Phe Thr Leu Ser Leu
            180                 185                 190

Ile Cys Phe Leu Leu Leu Ile Cys Ser Leu Cys Lys His Leu Lys Lys
        195                 200                 205

Met Arg Leu His Ser Lys Gly Ser Gln Asp Pro Ser Thr Lys Val His
    210                 215                 220
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```
Ile Lys Ala Leu Gln Thr Val Thr Ser Phe Leu Met Leu Phe Ala Ile
225                 230                 235                 240

Tyr Phe Leu Cys Ile Ile Thr Ser Thr Trp Asn Leu Arg Thr Gln Gln
                245                 250                 255

Ser Lys Leu Val Leu Leu Leu Cys Gln Thr Val Ala Ile Met Tyr Pro
            260                 265                 270

Ser Phe His Ser Phe Ile Leu Ile Met Gly Ser Arg Lys Leu Lys Gln
        275                 280                 285

Thr Phe Leu Ser Val Leu Trp Gln Met Thr Arg
    290                 295
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<210> 186
<211> 900
<212> DNA
<213> Homo sapiens

<400> 186
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aactttgcca atggcttcat agcactggta aatttcattg actgggtgaa gagaaaaaag 120

atctcctcag ctgaccaaat tctcactgct ctggcggtct ccagaattgg tttgctctgg 180

gcattattat taaattggta tttaactgtg ttgaatccag ctttttatag tgtagaatta 240

agaattactt cttataatgc ctgggttgta accaaccatt tcagcatgtg gcttgctgct 300

aacctcagca tattttattt gctcaagatt gccaatttct ccaaccttct ttttcttcat 360

ttaaagagga gagttaggag tgtcattctg gtgatactgt tggggacttt gatatttttg 420

gtttgtcatc ttcttgtggc aaacatggat gagagtatgt gggcagaaga atatgaagga 480

aacatgactg ggaagatgaa attgaggaat acagtacatc tttcatattt gactgtaact 540

accctatgga gcttcatacc ctttactctg tccctgatat cttttctgat gctaatctgt 600

tctctgtgta aacatctcaa gaagatgcag ctccatggag aaggatcgca agatctcagc 660

accaaggtcc acataaaagc tttgcaaact ctgatctcct tcctcttgtt atgtgccatt 720

ttctttctat tcctaatcgt ttcggtttgg agtcctagga ggctgcggaa tgacccggtt 780

gtcatggtta gcaaggctgt tggaaacata tatcttgcat tcgactcatt catcctaatt 840

tggagaacca agaagctaaa acacaccttt cttttgattt tgtgtcagat taggtgctga 900

<210> 187
<211> 299
<212> PRT
<213> Homo sapiens

<400> 187

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Met Ile Thr Phe Leu Tyr Ile Phe Phe Ser Ile Leu Ile Met Val Leu
1               5                  10                  15

Phe Val Leu Gly Asn Phe Ala Asn Gly Phe Ile Ala Leu Val Asn Phe
            20                  25                  30

Ile Asp Trp Val Lys Arg Lys Lys Ile Ser Ser Ala Asp Gln Ile Leu
        35                  40                  45

Thr Ala Leu Ala Val Ser Arg Ile Gly Leu Leu Trp Ala Leu Leu Leu
    50                  55                  60

Asn Trp Tyr Leu Thr Val Leu Asn Pro Ala Phe Tyr Ser Val Glu Leu
65                  70                  75                  80

Arg Ile Thr Ser Tyr Asn Ala Trp Val Val Thr Asn His Phe Ser Met
                85                  90                  95

Trp Leu Ala Ala Asn Leu Ser Ile Phe Tyr Leu Leu Lys Ile Ala Asn
            100                 105                 110

Phe Ser Asn Leu Leu Phe Leu His Leu Lys Arg Arg Val Arg Ser Val
        115                 120                 125

Ile Leu Val Ile Leu Leu Gly Thr Leu Ile Phe Leu Val Cys His Leu
    130                 135                 140

Leu Val Ala Asn Met Asp Glu Ser Met Trp Ala Glu Glu Tyr Glu Gly
145                 150                 155                 160

Asn Met Thr Gly Lys Met Lys Leu Arg Asn Thr Val His Leu Ser Tyr
                165                 170                 175

Leu Thr Val Thr Thr Leu Trp Ser Phe Ile Pro Phe Thr Leu Ser Leu
            180                 185                 190

Ile Ser Phe Leu Met Leu Ile Cys Ser Leu Cys Lys His Leu Lys Lys
        195                 200                 205

Met Gln Leu His Gly Glu Gly Ser Gln Asp Leu Ser Thr Lys Val His
    210                 215                 220

Ile Lys Ala Leu Gln Thr Leu Ile Ser Phe Leu Leu Leu Cys Ala Ile
225                 230                 235                 240

Phe Phe Leu Phe Leu Ile Val Ser Val Trp Ser Pro Arg Arg Leu Arg
                245                 250                 255

Asn Asp Pro Val Val Met Val Ser Lys Ala Val Gly Asn Ile Tyr Leu
            260                 265                 270

Ala Phe Asp Ser Phe Ile Leu Ile Trp Arg Thr Lys Lys Leu Lys His
        275                 280                 285

Thr Phe Leu Leu Ile Leu Cys Gln Ile Arg Cys
    290                 295
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<210> 188
<211> 924
<212> DNA
<213> Homo sapiens

<400> 188
atgcaagcag cactgacggc cttcttcgtg ttgctcttta gcctgctgag tcttctgggg 60

attgcagcga atggcttcat tgtgctggtg ctgggcaggg agtggctgcg atatggcagg 120

ttgctgccct tggatatgat cctcattagc ttgggtgcct cccgcttctg cctgcagttg 180

gttgggacgg tgcacaactt ctactactct gcccagaagg tcgagtactc tgggggtctc 240

ggccgacagt tcttccatct acactggcac ttcctgaact cagccacctt ctggttttgc 300

agctggctca gtgtcctgtt ctgtgtgaag attgctaaca tcacacactc caccttcctg 360

tggctgaagt ggaggttccc agggtgggtg ccctggctcc tgttgggctc tgtcctgatc 420

tccttcatca taaccctgct gttttttttgg gtgaactacc ctgtatatca agaattttta 480

attagaaaat tttctgggaa catgacctac aagtggaata caaggataga aacatactat 540

ttcccatccc tgaaactggt catctggtca attccttttt ctgtttttct ggtctcaatt 600

atgctgttaa ttaattctct gaggaggcat actcagagaa tgcagcacaa cgggcacagc 660

ctgcaggacc ccagcaccca ggctcacacc agagctctga agtccctcat ctccttcctc 720

attctttatg ctctgtcctt tctgtccctg atcattgatg ccgcaaaatt tatctccatg 780

cagaacgact tttactggcc atggcaaatt gcagtctacc tgtgcatatc tgtccatccc 840

ttcatcctca tcttcagcaa cctcaagctt cgaagcgtgt tctcgcagct cctgttgttg 900

gcaaggggct tctgggtggc ctag 924

<210> 189
<211> 307
<212> PRT
<213> Homo sapiens

<400> 189
Met Gln Ala Ala Leu Thr Ala Phe Phe Val Leu Leu Phe Ser Leu Leu
1 5 10 15

Ser Leu Leu Gly Ile Ala Ala Asn Gly Phe Ile Val Leu Val Leu Gly
20 25 30

Arg Glu Trp Leu Arg Tyr Gly Arg Leu Leu Pro Leu Asp Met Ile Leu
35 40 45

Ile Ser Leu Gly Ala Ser Arg Phe Cys Leu Gln Leu Val Gly Thr Val
50 55 60

```
His Asn Phe Tyr Tyr Ser Ala Gln Lys Val Glu Tyr Ser Gly Gly Leu
65                  70                  75                  80

Gly Arg Gln Phe Phe His Leu His Trp His Phe Leu Asn Ser Ala Thr
                85                  90                  95

Phe Trp Phe Cys Ser Trp Leu Ser Val Leu Phe Cys Val Lys Ile Ala
            100                 105                 110

Asn Ile Thr His Ser Thr Phe Leu Trp Leu Lys Trp Arg Phe Pro Gly
        115                 120                 125

Trp Val Pro Trp Leu Leu Leu Gly Ser Val Leu Ile Ser Phe Ile Ile
    130                 135                 140

Thr Leu Leu Phe Phe Trp Val Asn Tyr Pro Val Tyr Gln Glu Phe Leu
145                 150                 155                 160

Ile Arg Lys Phe Ser Gly Asn Met Thr Tyr Lys Trp Asn Thr Arg Ile
                165                 170                 175

Glu Thr Tyr Tyr Phe Pro Ser Leu Lys Leu Val Ile Trp Ser Ile Pro
            180                 185                 190

Phe Ser Val Phe Leu Val Ser Ile Met Leu Leu Ile Asn Ser Leu Arg
        195                 200                 205

Arg His Thr Gln Arg Met Gln His Asn Gly His Ser Leu Gln Asp Pro
    210                 215                 220

Ser Thr Gln Ala His Thr Arg Ala Leu Lys Ser Leu Ile Ser Phe Leu
225                 230                 235                 240

Ile Leu Tyr Ala Leu Ser Phe Leu Ser Leu Ile Ile Asp Ala Ala Lys
                245                 250                 255

Phe Ile Ser Met Gln Asn Asp Phe Tyr Trp Pro Trp Gln Ile Ala Val
            260                 265                 270

Tyr Leu Cys Ile Ser Val His Pro Phe Ile Leu Ile Phe Ser Asn Leu
        275                 280                 285

Lys Leu Arg Ser Val Phe Ser Gln Leu Leu Leu Leu Ala Arg Gly Phe
    290                 295                 300

Trp Val Ala
305
```

<210> 190
<211> 930
<212> DNA
<213> Homo sapiens

<400> 190
atgataactt ttctgcccat cattttttcc attctaatag tggttacatt tgtgattgga 60

aattttgcta atggcttcat agcattggta aattccattg agtggttcaa gagacaaaag 120

atctcttttg ctgaccaaat tctcactgct ctggcagtct ccagagttgg tttactctgg 180

gtattagtat taaattggta tgcaactgag ttgaatccag cttttaacag tatagaagta 240

agaattactg cttacaatgt ctgggcagta atcaaccatt tcagcaactg gcttgctact 300

agcctcagca tattttattt gctcaagatt gccaatttct ccaaccttat ttttcttcac 360

ttaaagagga gagttaagag tgttgttctg gtgatactat tggggccttt gctatttttg 420

gtttgtcatc tttttgtgat aaacatgaat cagattatat ggacaaaaga atatgaagga 480

aacatgactt ggaagatcaa actgaggagt gcaatgtacc tttcaaatac aacggtaacc 540

atcctagcaa acttagttcc cttcactctg accctgatat cttttctgct gttaatctgt 600

tctctgtgta aacatctcaa aaagatgcag ctccatggca aaggatctca agatcccagc 660

atgaaggtcc acataaaagc tttgcaaact gtgacctcct tcctcttgtt atgtgccatt 720

tactttctgt ccataatcat gtcagtttgg agttttgaga gtctggaaaa caaacctgtc 780

ttcatgttct gccaagctat tgcattcagc tatccttcaa cccacccatt catcctgatt 840

tggggaaaca agaagctaaa gcagactttt ctttcagttt tgtggcatgt gaggtactgg 900

gtgaaaggag agaagccttc atcttcatag 930

<210> 191
<211> 309
<212> PRT
<213> Homo sapiens

<400> 191

Met	Ile	Thr	Phe	Leu	Pro	Ile	Ile	Phe	Ser	Ile	Leu	Ile	Val	Val	Thr
1				5				10					15		
Phe	Val	Ile	Gly	Asn	Phe	Ala	Asn	Gly	Phe	Ile	Ala	Leu	Val	Asn	Ser
			20					25				30			
Ile	Glu	Trp	Phe	Lys	Arg	Gln	Lys	Ile	Ser	Phe	Ala	Asp	Gln	Ile	Leu
		35					40					45			
Thr	Ala	Leu	Ala	Val	Ser	Arg	Val	Gly	Leu	Leu	Trp	Val	Leu	Val	Leu
	50					55					60				
Asn	Trp	Tyr	Ala	Thr	Glu	Leu	Asn	Pro	Ala	Phe	Asn	Ser	Ile	Glu	Val
65					70					75					80
Arg	Ile	Thr	Ala	Tyr	Asn	Val	Trp	Ala	Val	Ile	Asn	His	Phe	Ser	Asn
				85					90					95	
Trp	Leu	Ala	Thr	Ser	Leu	Ser	Ile	Phe	Tyr	Leu	Leu	Lys	Ile	Ala	Asn
			100					105					110		

```
Phe Ser Asn Leu Ile Phe Leu His Leu Lys Arg Arg Val Lys Ser Val
        115                 120                 125

Val Leu Val Ile Leu Leu Gly Pro Leu Leu Phe Leu Val Cys His Leu
    130                 135                 140

Phe Val Ile Asn Met Asn Gln Ile Ile Trp Thr Lys Glu Tyr Glu Gly
145                 150                 155                 160

Asn Met Thr Trp Lys Ile Lys Leu Arg Ser Ala Met Tyr Leu Ser Asn
                165                 170                 175

Thr Thr Val Thr Ile Leu Ala Asn Leu Val Pro Phe Thr Leu Thr Leu
            180                 185                 190

Ile Ser Phe Leu Leu Leu Ile Cys Ser Leu Cys Lys His Leu Lys Lys
        195                 200                 205

Met Gln Leu His Gly Lys Gly Ser Gln Asp Pro Ser Met Lys Val His
    210                 215                 220

Ile Lys Ala Leu Gln Thr Val Thr Ser Phe Leu Leu Ile Cys Ala Ile
225                 230                 235                 240

Tyr Phe Leu Ser Ile Ile Met Ser Val Trp Ser Phe Glu Ser Leu Glu
                245                 250                 255

Asn Lys Pro Val Phe Met Phe Cys Glu Ala Ile Ala Phe Ser Tyr Pro
            260                 265                 270

Ser Thr His Pro Phe Ile Leu Ile Trp Gly Asn Lys Lys Leu Lys Gln
        275                 280                 285

Thr Phe Leu Ser Val Leu Trp His Val Arg Tyr Trp Val Lys Gly Glu
    290                 295                 300

Lys Pro Ser Ser Ser
305
```

<210> 192
<211> 930
<212> DNA
<213> Homo sapiens

<400> 192

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atggtatatt ttctgctcat cattttatca attctggtag tgtttgcatt tgttcttgga     60

aatttttcca atggcttcat agctctagta aatgtcattg actgggttaa gacacgaaag    120

atctcctcag ctgaccaaat cctcactgct ctggtggtct ccagaattgg tttactctgg    180

gtcatattat tacattggta tgcaaatgtg tttaattcag ctttatatag ttcagaagta    240

ggagctgttg cttctaatat ctcagcaata atcaaccatt tcagcatctg gcttgctgct    300

agcctcagca tattttattt gctcaagatt gccaatttct ccaaccttat ttttctccac    360
```

ctaaagaaga gaattaggag tgttgttctg gtgatactgt tgggtccctt ggtatttttg 420

atttgtaatc ttgctgtgat aaccatggat gacagtgtgt ggacaaaaga atatgaagga 480

aatgtgactt ggaagatcaa attgaggaat gcaatacacc tttcaaactt gactgtaagc 540

acactagcaa acctcatacc cttcattctg accctaatat gttttctgct gttaatctgt 600

tctctgcata aacatctcaa gaagatgcag ctccatggca aaggatctca agatctcagc 660

accaaggtcc acataaaagc tttgcaaact gtgatctcct tcctcatgtt atatgccatt 720

tactttctgt atctaatcac attaacctgg aatctttgaa cacagcagaa caaacttgta 780

ttcctgcttt gccaaactct tggaatcatg tatccttcat tccactcatt cttcctgatt 840

atgggaagca ggaaactaaa acagacgttt ctttcagttt tatgtcaggt cacatgctta 900

gtgaaaggac agcaaccctc aactccatag 930

<210> 193
<211> 885
<212> DNA
<213> Homo sapiens

<400> 193
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aatgttgcca atggcttcat agctctagta ggtgtccttg agtgggttaa gacacaaaag 120

atctcatcag ctgaccaaat ttctcactgc tctggtggtg tccagagttg gtttactctg 180

ggtcatatta ttacattggt atgcaactgt gtttaatttg gcttcacata gattagaagt 240

aagaattttt ggttctaatg tctcagcaat aaccaagcat ttcagcatct gggtgttact 300

agcctcagca tatttcattt gctcaagact gccaatttct ccaaccttat ttttctccac 360

ctaaagaaaa ggattaagaa tgttggtttg gtgatgctgt tggggccctt ggtatttttc 420

atttgtaatc ttgctctgat aaccacgggt gagagtgtgt ggacaaaaga atatgaagga 480

aatttgtctt ggatgatcaa attgaggaat gcaatacagc tttcaaactt gactgtaacc 540

atgccagcaa acgtcacacc ctgcactctg acactaatat cttttctgct gttaatctat 600

tctccatgta aacatgtcaa gaagatgcag ctccatggca aaggatctca acatctcagc 660

accaaggtgc acataaaagc tttgcaaact gtgatctcct tccttatgtt atttgccatt 720

tactttctgt gtctaatcac atcaacttgg aatcctagga ctcagcagag caaacttgta 780

ttcctgcttt accaaactct tggattcatg tatcttttgt tccactcatt catcctgact 840

atgggaagta ggaagccaaa acagaccttt ctttcagctt tgtga 885

<210> 194
<211> 912
<212> DNA
<213> Mus musculus

<400> 194
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gggactacag tgaatggatt ccttatcatt gtgaactgct atgacttgtt caagagccga 120

acgttcctga tcctgcagac cctcttgatg tgcacagggc tgtccagact cggtctgcag 180

ataatgctca tgacccaaag cttcttctct gtgttctttc catactctta tgaggaaaat 240

atttatagtt cagatataat gttcgtctgg atgttcttca gctcgattgg cctctggttt 300

gccacatgtc tctctgtctt ttactgcctc aagatttcag gcttcactcc accctggttt 360

ctttggctga aattcagaat ttcaaagctc atattttggc tgcttctggg cagcttgctg 420

gcctctctgg gcactgcaac tgtgtgcatc gaggtaggtt tccctttaat tgaggatggc 480

tatgtcctga gaaacgcagg actaaatgat agtaatgcca agctagtgag aaataatgac 540

ttgctcctca tcaacctgat cctcctgctt cccctgtctg tgtttgtgat gtgcacctct 600

atgttatttg tttctcttta caagcacatg cactggatgc aaagcgaatc tcacaagctg 660

tcaagtgcca gaaccgaagc tcatataaat gcattaaaga cagtgacaac attcttttgt 720

ttctttgttt cttactttgc tgccttcatg gcaaatatga catttagaat tccatacaga 780

agtcatcagt tcttcgtggt gaaggaaatc atggcagcat atcccgccgg ccactctgtc 840

ataatcgtct tgagtaactc taagttcaaa gacttattca ggagaatgat ctgtctacag 900

aaggaagagt ga 912

<210> 195
<211> 303
<212> PRT
<213> Mus musculus

<400> 195
Met Thr Ser Pro Phe Pro Ala Ile Tyr His Met Val Ile Met Thr Ala
1 5 10 15

Glu Phe Leu Ile Gly Thr Thr Val Asn Gly Phe Leu Ile Ile Val Asn
20 25 30

Cys Tyr Asp Leu Phe Lys Ser Arg Thr Phe Leu Ile Leu Gln Thr Leu
35 40 45

Leu Met Cys Thr Gly Leu Ser Arg Leu Gly Leu Gln Ile Met Leu Met
50 55 60

```
Thr Gln Ser Phe Phe Ser Val Phe Phe Pro Tyr Ser Tyr Glu Glu Asn
65                  70                  75                  80

Ile Tyr Ser Ser Asp Ile Met Phe Val Trp Met Phe Phe Ser Ser Ile
                85                  90                  95

Gly Leu Trp Phe Ala Thr Cys Leu Ser Val Phe Tyr Cys Leu Lys Ile
            100                 105                 110

Ser Gly Phe Thr Pro Pro Trp Phe Leu Trp Leu Lys Phe Arg Ile Ser
        115                 120                 125

Lys Leu Ile Phe Trp Leu Leu Leu Gly Ser Leu Leu Ala Ser Leu Gly
    130                 135                 140

Thr Ala Thr Val Cys Ile Glu Val Gly Phe Pro Leu Ile Glu Asp Gly
145                 150                 155                 160

Tyr Val Leu Arg Asn Ala Gly Leu Asn Asp Ser Asn Ala Lys Leu Val
                165                 170                 175

Arg Asn Asn Asp Leu Leu Leu Ile Asn Leu Ile Leu Leu Leu Pro Leu
            180                 185                 190

Ser Val Phe Val Met Cys Thr Ser Met Leu Phe Val Ser Leu Tyr Lys
        195                 200                 205

His Met His Trp Met Gln Ser Glu Ser His Leu Lys Ser Ser Ala Arg
    210                 215                 220

Thr Glu Ala His Ile Asn Ala Leu Lys Thr Val Thr Thr Phe Phe Cys
225                 230                 235                 240

Phe Phe Val Ser Tyr Phe Ala Ala Phe Met Ala Asn Met Thr Phe Arg
                245                 250                 255

Ile Pro Tyr Arg Ser His Gln Phe Phe Val Val Lys Glu Ile Met Ala
            260                 265                 270

Ala Tyr Pro Ala Gly His Ser Val Ile Ile Val Leu Ser Asn Ser Lys
        275                 280                 285

Phe Lys Asp Leu Phe Arg Arg Met Ile Cys Leu Gln Lys Glu Glu
    290                 295                 300


<210> 196
<211> 858
<212> PRT
<213> Mus musculus

<400> 196
Met Pro Gly Leu Ala Ile Leu Gly Leu Ser Leu Ala Ala Phe Leu Glu
1               5                   10                  15

Leu Gly Met Gly Ser Ser Leu Cys Leu Ser Gln Gln Phe Lys Ala Gln
            20                  25                  30
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```
Gly Asp Tyr Ile Leu Gly Gly Leu Phe Pro Leu Gly Thr Thr Glu Glu
        35                  40                  45

Ala Thr Leu Asn Gln Arg Thr Gln Pro Asn Gly Ile Leu Cys Thr Arg
    50                  55                  60

Phe Ser Pro Leu Gly Leu Phe Leu Ala Met Ala Met Lys Met Ala Val
65                  70                  75                  80

Glu Glu Ile Asn Asn Gly Ser Ala Leu Leu Pro Gly Leu Arg Leu Gly
                85                  90                  95

Tyr Asp Leu Phe Asp Thr Cys Ser Glu Pro Val Val Thr Met Lys Pro
            100                 105                 110

Ser Leu Met Phe Met Ala Lys Val Gly Ser Gln Ser Ile Ala Ala Tyr
        115                 120                 125

Cys Asn Tyr Thr Gln Tyr Gln Pro Arg Val Leu Ala Val Ile Gly Pro
    130                 135                 140

His Ser Ser Glu Leu Ala Leu Ile Thr Gly Lys Phe Phe Ser Phe Phe
145                 150                 155                 160

Leu Met Pro Gln Val Ser Tyr Ser Ala Ser Met Asp Arg Leu Ser Asp
                165                 170                 175

Arg Glu Thr Phe Pro Ser Phe Phe Arg Thr Val Pro Ser Asp Arg Val
            180                 185                 190

Gln Leu Gln Ala Val Val Thr Leu Leu Gln Asn Phe Ser Trp Asn Trp
        195                 200                 205

Val Ala Ala Leu Gly Ser Asp Asp Asp Tyr Gly Arg Glu Gly Leu Ser
    210                 215                 220

Ile Phe Ser Gly Leu Ala Asn Ser Arg Gly Ile Cys Ile Ala His Glu
225                 230                 235                 240

Gly Leu Val Pro Gln His Asp Thr Ser Gly Gln Gln Leu Gly Lys Val
                245                 250                 255

Val Asp Val Leu Arg Gln Val Asn Gln Ser Lys Val Gln Val Val Val
            260                 265                 270

Leu Phe Ala Ser Ala Arg Ala Val Tyr Ser Leu Phe Ser Tyr Ser Ile
        275                 280                 285

Leu His Asp Leu Ser Pro Lys Val Trp Val Ala Ser Glu Ser Trp Leu
    290                 295                 300

Thr Ser Asp Leu Val Met Thr Leu Pro Asn Ile Ala Arg Val Gly Thr
305                 310                 315                 320

Val Leu Gly Phe Leu Gln Arg Gly Ala Leu Leu Pro Glu Phe Ser His
                325                 330                 335
```

```
Tyr Val Glu Thr Arg Leu Ala Leu Ala Ala Asp Pro Thr Phe Cys Ala
            340                 345                 350

Ser Leu Lys Ala Glu Leu Asp Leu Glu Glu Arg Val Met Gly Pro Arg
        355                 360                 365

Cys Ser Gln Cys Asp Tyr Ile Met Leu Gln Asn Leu Ser Ser Gly Leu
    370                 375                 380

Met Gln Asn Leu Ser Ala Gly Gln Leu His His Gln Ile Phe Ala Thr
385                 390                 395                 400

Tyr Ala Ala Val Tyr Ser Val Ala Gln Ala Leu His Asn Thr Leu Gln
                405                 410                 415

Cys Asn Val Ser His Cys His Thr Ser Glu Pro Val Gln Pro Trp Gln
            420                 425                 430

Leu Leu Glu Asn Met Tyr Asn Met Ser Phe Arg Ala Arg Asp Leu Thr
        435                 440                 445

Leu Gln Phe Asp Ala Lys Gly Ser Val Asp Met Glu Tyr Asp Leu Lys
    450                 455                 460

Met Trp Val Trp Gln Ser Pro Thr Pro Val Leu His Thr Val Gly Thr
465                 470                 475                 480

Phe Asn Gly Thr Leu Gln Leu Gln His Ser Lys Met Tyr Trp Pro Gly
                485                 490                 495

Asn Gln Val Pro Val Ser Gln Cys Ser Arg Gln Cys Lys Asp Gly Gln
            500                 505                 510

Val Arg Arg Val Lys Gly Phe His Ser Cys Cys Tyr Asp Cys Val Asp
        515                 520                 525

Cys Lys Ala Gly Ser Tyr Arg Lys His Pro Asp Asp Phe Thr Cys Thr
    530                 535                 540

Pro Cys Gly Lys Asp Gln Trp Ser Pro Glu Lys Ser Thr Thr Cys Leu
545                 550                 555                 560

Pro Arg Arg Pro Lys Phe Leu Ala Trp Gly Glu Pro Ala Val Leu Ser
                565                 570                 575

Leu Leu Leu Leu Leu Cys Leu Val Leu Gly Leu Thr Leu Ala Ala Leu
            580                 585                 590

Gly Leu Phe Val His Tyr Trp Asp Ser Pro Leu Val Gln Ala Ser Gly
        595                 600                 605

Gly Ser Leu Phe Cys Phe Gly Leu Ile Cys Leu Gly Leu Phe Cys Leu
    610                 615                 620

Ser Val Leu Leu Phe Pro Gly Arg Pro Arg Ser Ala Ser Cys Leu Ala
625                 630                 635                 640
```

```
Gln Gln Pro Met Ala His Leu Pro Leu Thr Gly Cys Leu Ser Thr Leu
                645                 650                 655

Phe Leu Gln Ala Ala Glu Ile Phe Val Glu Ser Glu Leu Pro Leu Ser
            660                 665                 670

Trp Ala Asn Trp Leu Cys Ser Tyr Leu Arg Gly Pro Trp Ala Trp Leu
        675                 680                 685

Val Val Leu Leu Ala Thr Leu Val Glu Ala Ala Leu Cys Ala Trp Tyr
    690                 695                 700

Leu Met Ala Phe Pro Pro Glu Val Val Thr Asp Trp Gln Val Leu Pro
705                 710                 715                 720

Thr Glu Val Leu Glu His Cys Arg Met Arg Ser Trp Val Ser Leu Gly
                725                 730                 735

Leu Val His Ile Thr Asn Ala Val Leu Ala Phe Leu Cys Phe Leu Gly
            740                 745                 750

Thr Phe Leu Val Gln Ser Gln Pro Gly Arg Tyr Asn Arg Ala Arg Gly
        755                 760                 765

Leu Thr Phe Ala Met Leu Ala Tyr Phe Ile Ile Trp Val Ser Phe Val
    770                 775                 780

Pro Leu Leu Ala Asn Val Gln Val Ala Tyr Gln Pro Ala Val Gln Met
785                 790                 795                 800

Gly Ala Ile Leu Phe Cys Ala Leu Gly Ile Leu Ala Thr Phe His Leu
                805                 810                 815

Pro Lys Cys Tyr Val Leu Leu Trp Leu Pro Glu Leu Asn Thr Gln Glu
            820                 825                 830

Phe Phe Leu Gly Arg Ser Pro Lys Glu Ala Ser Asp Gly Asn Ser Gly
        835                 840                 845

Ser Ser Glu Ala Thr Arg Gly His Ser Glu
    850                 855


<210> 197
<211> 841
<212> PRT
<213> Homo sapiens

<400> 197
Met Leu Leu Cys Thr Ala Arg Leu Val Gly Leu Gln Leu Leu Ile Ser
1               5                   10                  15

Cys Cys Trp Ala Phe Ala Cys His Ser Thr Glu Ser Ser Pro Asp Phe
            20                  25                  30

Thr Leu Pro Gly Asp Tyr Leu Leu Ala Gly Leu Phe Pro Leu His Ser
        35                  40                  45
```

```
Gly Cys Leu Gln Val Arg His Arg Pro Glu Val Thr Leu Cys Asp Arg
    50                  55                  60

Ser Cys Ser Phe Asn Glu His Gly Tyr His Leu Phe Gln Ala Met Arg
65                  70                  75                  80

Leu Gly Val Glu Glu Ile Asn Asn Ser Thr Ala Leu Leu Pro Asn Ile
                85                  90                  95

Thr Leu Gly Tyr Gln Leu Tyr Asp Val Cys Ser Asp Ser Ala Asn Val
            100                 105                 110

Tyr Ala Thr Leu Arg Val Leu Ser Leu Pro Gly Gln His His Ile Glu
        115                 120                 125

Leu Gln Gly Asp Leu Leu His Tyr Ser Pro Thr Val Leu Ala Val Ile
    130                 135                 140

Gly Pro Asp Ser Thr Asn Arg Ala Ala Thr Thr Ala Ala Leu Leu Ser
145                 150                 155                 160

Pro Phe Leu Val Pro Met Ile Ser Tyr Ala Ala Ser Ser Glu Thr Leu
                165                 170                 175

Ser Val Lys Arg Gln Tyr Pro Ser Phe Leu Arg Thr Ile Pro Asn Asp
            180                 185                 190

Lys Tyr Gln Val Glu Thr Met Val Leu Leu Leu Gln Lys Phe Gly Trp
        195                 200                 205

Thr Trp Ile Ser Leu Val Gly Ser Ser Asp Asp Tyr Gly Gln Leu Gly
    210                 215                 220

Val Gln Ala Leu Glu Asn Gln Ala Thr Gly Gln Gly Ile Cys Ile Ala
225                 230                 235                 240

Phe Lys Asp Ile Met Pro Phe Ser Ala Gln Val Gly Asp Glu Arg Met
                245                 250                 255

Gln Cys Leu Met Arg His Leu Ala Gln Ala Gly Ala Thr Val Val Val
            260                 265                 270

Val Phe Ser Ser Arg Gln Leu Ala Arg Val Phe Phe Glu Ser Val Val
        275                 280                 285

Leu Thr Asn Leu Thr Gly Lys Val Trp Val Ala Ser Glu Ala Trp Ala
    290                 295                 300

Leu Ser Arg His Ile Thr Gly Val Pro Gly Ile Gln Arg Ile Gly Met
305                 310                 315                 320

Val Leu Gly Val Ala Ile Gln Lys Arg Ala Val Pro Gly Leu Lys Ala
                325                 330                 335

Phe Glu Glu Ala Tyr Ala Arg Ala Asp Lys Lys Ala Pro Arg Pro Cys
            340                 345                 350
```

```
His Lys Gly Ser Trp Cys Ser Ser Asn Gln Leu Cys Arg Glu Cys Gln
        355                 360                 365

Ala Phe Met Ala His Thr Met Pro Lys Leu Lys Ala Phe Ser Met Ser
    370                 375                 380

Ser Ala Tyr Asn Ala Tyr Arg Ala Val Tyr Ala Val Ala His Gly Leu
385                 390                 395                 400

His Gln Leu Leu Gly Cys Ala Ser Gly Ala Cys Ser Arg Gly Arg Val
                405                 410                 415

Tyr Pro Trp Gln Leu Leu Glu Gln Ile His Lys Val His Phe Leu Leu
            420                 425                 430

His Lys Asp Thr Val Ala Phe Asn Asp Asn Arg Asp Pro Leu Ser Ser
        435                 440                 445

Tyr Asn Ile Ile Ala Trp Asp Trp Asn Gly Pro Lys Trp Thr Phe Thr
    450                 455                 460

Val Leu Gly Ser Ser Thr Trp Ser Pro Val Gln Leu Asn Ile Asn Glu
465                 470                 475                 480

Thr Lys Ile Gln Trp His Gly Lys Asp Asn Gln Val Pro Lys Ser Val
                485                 490                 495

Cys Ser Ser Asp Cys Leu Glu Gly His Gln Arg Val Val Thr Gly Phe
            500                 505                 510

His His Cys Cys Phe Glu Cys Val Pro Cys Gly Ala Gly Thr Phe Leu
        515                 520                 525

Asn Lys Ser Asp Leu Tyr Arg Cys Gln Pro Cys Gly Lys Glu Glu Trp
    530                 535                 540

Ala Pro Glu Gly Ser Gln Thr Cys Phe Pro Arg Thr Val Val Phe Leu
545                 550                 555                 560

Ala Leu Arg Glu His Thr Ser Trp Val Leu Leu Ala Ala Asn Thr Leu
                565                 570                 575

Leu Leu Leu Leu Leu Leu Gly Thr Ala Gly Leu Phe Ala Trp His Leu
            580                 585                 590

Asp Thr Pro Val Val Arg Ser Ala Gly Gly Arg Leu Cys Phe Leu Met
        595                 600                 605

Leu Gly Ser Leu Ala Ala Gly Ser Gly Ser Leu Tyr Gly Phe Phe Gly
    610                 615                 620

Glu Pro Thr Arg Pro Ala Cys Leu Leu Arg Gln Ala Leu Phe Ala Leu
625                 630                 635                 640

Gly Phe Thr Ile Phe Leu Ser Cys Leu Thr Val Arg Ser Phe Gln Leu
                645                 650                 655
```

```
Ile Ile Ile Phe Lys Phe Ser Thr Lys Val Pro Thr Phe Tyr His Ala
            660                 665                 670

Trp Val Gln Asn His Gly Ala Gly Leu Phe Val Met Ile Ser Ser Ala
        675                 680                 685

Ala Gln Leu Leu Ile Cys Leu Thr Trp Leu Val Val Trp Thr Pro Leu
    690                 695                 700

Pro Ala Arg Glu Tyr Gln Arg Phe Pro His Leu Val Met Leu Glu Cys
705                 710                 715                 720

Thr Glu Thr Asn Ser Leu Gly Phe Ile Leu Ala Phe Leu Tyr Asn Gly
                725                 730                 735

Leu Leu Ser Ile Ser Ala Phe Ala Cys Ser Tyr Leu Gly Lys Asp Leu
            740                 745                 750

Pro Glu Asn Tyr Asn Glu Ala Lys Cys Val Thr Phe Ser Leu Leu Phe
        755                 760                 765

Asn Phe Val Ser Trp Ile Ala Phe Phe Thr Thr Ala Ser Val Tyr Asp
    770                 775                 780

Gly Lys Tyr Leu Pro Ala Ala Asn Met Met Ala Gly Leu Ser Ser Leu
785                 790                 795                 800

Ser Ser Gly Phe Gly Gly Tyr Phe Leu Pro Lys Cys Tyr Val Ile Leu
                805                 810                 815

Cys Arg Pro Asp Leu Asn Ser Thr Glu His Phe Gln Ala Ser Ile Gln
            820                 825                 830

Asp Tyr Thr Arg Arg Cys Gly Ser Thr
        835                 840


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<212> PRT
<213> Homo sapiens

<400> 198
Met Gly Pro Arg Ala Lys Thr Ile Cys Ser Leu Phe Phe Leu Leu Trp
1               5                   10                  15

Val Leu Ala Glu Pro Ala Glu Asn Ser Asp Phe Tyr Leu Pro Gly Asp
            20                  25                  30

Tyr Leu Leu Gly Gly Leu Phe Ser Leu His Ala Asn Met Lys Gly Ile
        35                  40                  45

Val His Leu Asn Phe Leu Gln Val Pro Met Cys Lys Glu Tyr Glu Val
    50                  55                  60

Lys Val Ile Gly Tyr Asn Leu Met Gln Ala Met Arg Phe Ala Val Glu
65                  70                  75                  80
```

```
Glu Ile Asn Asn Asp Ser Ser Leu Leu Pro Gly Val Leu Leu Gly Tyr
                85                  90                  95

Glu Ile Val Asp Val Cys Tyr Ile Ser Asn Asn Val Gln Pro Val Leu
            100                 105                 110

Tyr Phe Leu Ala His Glu Asp Asn Leu Leu Pro Ile Gln Glu Asp Tyr
        115                 120                 125

Ser Asn Tyr Ile Ser Arg Val Val Ala Val Ile Gly Pro Asp Asn Ser
    130                 135                 140

Glu Ser Val Met Thr Val Ala Asn Phe Leu Ser Leu Phe Leu Leu Pro
145                 150                 155                 160

Gln Ile Thr Tyr Ser Ala Ile Ser Asp Glu Leu Arg Asp Lys Val Arg
                165                 170                 175

Phe Pro Ala Leu Leu Arg Thr Thr Pro Ser Ala Asp His His Val Glu
            180                 185                 190

Ala Met Val Gln Leu Met Leu His Phe Arg Trp Asn Trp Ile Ile Val
        195                 200                 205

Leu Val Ser Ser Asp Thr Tyr Gly Arg Asp Asn Gly Gln Leu Leu Gly
    210                 215                 220

Glu Arg Val Ala Arg Arg Asp Ile Cys Ile Ala Phe Gln Glu Thr Leu
225                 230                 235                 240

Pro Thr Leu Gln Pro Asn Gln Asn Met Thr Ser Glu Glu Arg Gln Arg
                245                 250                 255

Leu Val Thr Ile Val Asp Lys Leu Gln Gln Ser Thr Ala Arg Val Val
            260                 265                 270

Val Val Phe Ser Pro Asp Leu Thr Leu Tyr His Phe Phe Asn Glu Val
        275                 280                 285

Leu Arg Gln Asn Phe Thr Gly Ala Val Trp Ile Ala Ser Glu Ser Trp
    290                 295                 300

Ala Ile Asp Pro Val Leu His Asn Leu Thr Glu Leu Gly His Leu Gly
305                 310                 315                 320

Thr Phe Leu Gly Ile Thr Ile Gln Ser Val Pro Ile Pro Gly Phe Ser
                325                 330                 335

Glu Phe Arg Glu Trp Gly Pro Gln Ala Gly Pro Pro Pro Leu Ser Arg
            340                 345                 350

Thr Ser Gln Ser Tyr Thr Cys Asn Gln Glu Cys Asp Asn Cys Leu Asn
        355                 360                 365

Ala Thr Leu Ser Phe Asn Thr Ile Leu Arg Leu Ser Gly Glu Arg Val
    370                 375                 380
```

```
Val Tyr Ser Val Tyr Ser Ala Val Tyr Ala Val Ala His Ala Leu His
385                 390                 395                 400

Ser Leu Leu Gly Cys Asp Lys Ser Thr Cys Thr Lys Arg Val Val Tyr
                405                 410                 415

Pro Trp Gln Leu Leu Glu Glu Ile Trp Lys Val Asn Phe Thr Leu Leu
            420                 425                 430

Asp His Gln Ile Phe Phe Asp Pro Gln Gly Asp Val Ala Leu His Leu
        435                 440                 445

Glu Ile Val Gln Trp Gln Trp Asp Arg Ser Gln Asn Pro Phe Gln Ser
    450                 455                 460

Val Ala Ser Tyr Tyr Pro Leu Gln Arg Gln Leu Lys Asn Ile Gln Asp
465                 470                 475                 480

Ile Ser Trp His Thr Val Asn Asn Thr Ile Pro Met Ser Met Cys Ser
                485                 490                 495

Lys Arg Cys Gln Ser Gly Gln Lys Lys Lys Pro Val Gly Ile His Val
            500                 505                 510

Cys Cys Phe Glu Cys Ile Asp Cys Leu Pro Gly Thr Phe Leu Asn His
        515                 520                 525

Thr Glu Asp Glu Tyr Glu Cys Gln Ala Cys Pro Asn Asn Glu Trp Ser
    530                 535                 540

Tyr Gln Ser Glu Thr Ser Cys Phe Lys Arg Gln Leu Val Phe Leu Glu
545                 550                 555                 560

Trp His Glu Ala Pro Thr Ile Ala Val Ala Leu Leu Ala Ala Leu Gly
                565                 570                 575

Phe Leu Ser Thr Leu Ala Ile Leu Val Ile Phe Trp Arg His Phe Gln
            580                 585                 590

Thr Pro Ile Val Arg Ser Ala Gly Gly Pro Met Cys Phe Leu Met Leu
        595                 600                 605

Thr Leu Leu Leu Val Ala Tyr Met Val Val Pro Val Tyr Val Gly Pro
    610                 615                 620

Pro Lys Val Ser Thr Cys Leu Cys Arg Gln Ala Leu Phe Pro Leu Cys
625                 630                 635                 640

Phe Thr Ile Cys Ile Ser Cys Ile Ala Val Arg Ser Phe Gln Ile Val
                645                 650                 655

Cys Ala Phe Lys Met Ala Ser Arg Phe Pro Arg Ala Tyr Ser Tyr Trp
            660                 665                 670

Val Arg Tyr Gln Gly Pro Tyr Val Ser Met Ala Phe Ile Thr Val Leu
        675                 680                 685
```

```
Lys Met Val Ile Val Val Ile Gly Met Leu Ala Thr Gly Leu Ser Pro
    690                 695                 700

Thr Thr Arg Thr Asp Pro Asp Asp Pro Lys Ile Thr Ile Val Ser Cys
705                 710                 715                 720

Asn Pro Asn Tyr Arg Asn Ser Leu Leu Phe Asn Thr Ser Leu Asp Leu
                725                 730                 735

Leu Leu Ser Val Val Gly Phe Ser Phe Ala Tyr Met Gly Lys Glu Leu
            740                 745                 750

Pro Thr Asn Tyr Asn Glu Ala Lys Phe Ile Thr Leu Ser Met Thr Phe
        755                 760                 765

Tyr Phe Thr Ser Ser Val Ser Leu Cys Thr Phe Met Ser Ala Tyr Ser
    770                 775                 780

Gly Val Leu Val Thr Ile Val Asp Leu Leu Val Thr Val Leu Asn Leu
785                 790                 795                 800

Leu Ala Ile Ser Leu Gly Tyr Phe Gly Pro Lys Cys Tyr Met Ile Leu
                805                 810                 815

Phe Tyr Pro Glu Arg Asn Thr Pro Ala Tyr Phe Asn Ser Met Ile Gln
            820                 825                 830

Gly Tyr Thr Met Arg Arg Asp
        835
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<212> PRT
<213> Homo sapiens

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Met Leu Gly Pro Ala Val Leu Gly Leu Ser Leu Trp Ala Leu Leu His
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Pro Gly Thr Gly Ala Pro Leu Cys Leu Ser Gln Gln Leu Arg Met Lys
            20                  25                  30

Gly Asp Tyr Val Leu Gly Gly Leu Phe Pro Leu Gly Glu Ala Glu Glu
        35                  40                  45

Ala Gly Leu Arg Ser Arg Thr Arg Pro Ser Ser Pro Val Cys Thr Arg
    50                  55                  60

Phe Ser Ser Asn Gly Leu Leu Trp Ala Leu Ala Met Lys Met Ala Val
65                  70                  75                  80

Glu Glu Ile Asn Asn Lys Ser Asp Leu Leu Pro Gly Leu Arg Leu Gly
                85                  90                  95

Tyr Asp Leu Phe Asp Thr Cys Ser Glu Pro Val Val Ala Met Lys Pro
            100                 105                 110
```

```
Ser Leu Met Phe Leu Ala Lys Ala Gly Ser Arg Asp Ile Ala Ala Tyr
        115                 120                 125

Cys Asn Tyr Thr Gln Tyr Gln Pro Arg Val Leu Ala Val Ile Gly Pro
    130                 135                 140

His Ser Ser Glu Leu Ala Met Val Thr Gly Lys Phe Phe Ser Phe Phe
145                 150                 155                 160

Leu Met Pro Gln Val Ser Tyr Gly Ala Ser Met Glu Leu Leu Ser Ala
                165                 170                 175

Arg Glu Thr Phe Pro Ser Phe Phe Arg Thr Val Pro Ser Asp Arg Val
            180                 185                 190

Gln Leu Thr Ala Ala Ala Glu Leu Leu Gln Glu Phe Gly Trp Asn Trp
        195                 200                 205

Val Ala Ala Leu Gly Ser Asp Asp Glu Tyr Gly Arg Gln Gly Leu Ser
    210                 215                 220

Ile Phe Ser Ala Leu Ala Ala Ala Arg Gly Ile Cys Ile Ala His Glu
225                 230                 235                 240

Gly Leu Val Pro Leu Pro Arg Ala Asp Asp Ser Arg Leu Gly Lys Val
                245                 250                 255

Gln Asp Val Leu His Gln Val Asn Gln Ser Ser Val Gln Val Val Leu
            260                 265                 270

Leu Phe Ala Ser Val His Ala Ala His Ala Leu Phe Asn Tyr Ser Ile
        275                 280                 285

Ser Ser Arg Leu Ser Pro Lys Val Trp Val Ala Ser Glu Ala Trp Leu
    290                 295                 300

Thr Ser Asp Leu Val Met Gly Leu Pro Gly Met Ala Gln Met Gly Thr
305                 310                 315                 320

Val Leu Gly Phe Leu Gln Arg Gly Ala Gln Leu His Glu Phe Pro Gln
                325                 330                 335

Tyr Val Lys Thr His Leu Ala Leu Ala Thr Asp Pro Ala Phe Cys Ser
            340                 345                 350

Ala Leu Gly Glu Arg Glu Gln Gly Leu Glu Glu Asp Val Val Gly Gln
        355                 360                 365

Arg Cys Pro Gln Cys Asp Cys Ile Thr Leu Gln Asn Val Ser Ala Gly
    370                 375                 380

Leu Asn His His Gln Thr Phe Ser Val Tyr Ala Ala Val Tyr Ser Val
385                 390                 395                 400

Ala Gln Ala Leu His Asn Thr Leu Gln Cys Asn Ala Ser Gly Cys Pro
                405                 410                 415
```

```
Ala Gln Asp Pro Val Lys Pro Trp Gln Leu Leu Glu Asn Met Tyr Asn
            420                 425                 430

Leu Thr Phe His Val Gly Gly Leu Pro Leu Arg Phe Asp Ser Ser Gly
        435                 440                 445

Asn Val Asp Met Glu Tyr Asp Leu Lys Leu Trp Val Trp Gln Gly Ser
    450                 455                 460

Val Pro Arg Leu His Asp Val Gly Arg Phe Asn Gly Ser Leu Arg Thr
465                 470                 475                 480

Glu Arg Leu Lys Ile Arg Trp His Thr Ser Asp Asn Gln Lys Pro Val
                485                 490                 495

Ser Arg Cys Ser Arg Gln Cys Gln Glu Gly Gln Val Arg Arg Val Lys
            500                 505                 510

Gly Phe His Ser Cys Cys Tyr Asp Cys Val Asp Cys Glu Ala Gly Ser
        515                 520                 525

Tyr Arg Gln Asn Pro Asp Asp Ile Ala Cys Thr Phe Cys Gly Gln Asp
    530                 535                 540

Glu Trp Ser Pro Glu Arg Ser Thr Arg Cys Phe Arg Arg Arg Ser Arg
545                 550                 555                 560

Phe Leu Ala Trp Gly Glu Pro Ala Val Leu Leu Leu Leu Leu Leu Leu
                565                 570                 575

Ser Leu Ala Leu Gly Leu Val Leu Ala Ala Leu Gly Leu Phe Val His
            580                 585                 590

His Arg Asp Ser Pro Leu Val Gln Ala Ser Gly Gly Pro Leu Ala Cys
        595                 600                 605

Phe Gly Leu Val Cys Leu Gly Leu Val Cys Leu Ser Val Leu Leu Phe
    610                 615                 620

Pro Gly Gln Pro Ser Pro Ala Arg Cys Leu Ala Gln Gln Pro Leu Ser
625                 630                 635                 640

His Leu Pro Leu Thr Gly Cys Leu Ser Thr Leu Phe Leu Gln Ala Ala
                645                 650                 655

Glu Ile Phe Val Glu Ser Glu Leu Pro Leu Ser Trp Ala Asp Arg Leu
            660                 665                 670

Ser Gly Cys Leu Arg Gly Pro Trp Ala Trp Leu Val Val Leu Leu Ala
        675                 680                 685

Met Leu Val Glu Val Ala Leu Cys Thr Trp Tyr Leu Val Ala Phe Pro
    690                 695                 700

Pro Glu Val Val Thr Asp Trp His Met Leu Pro Thr Glu Ala Leu Val
705                 710                 715                 720
```

```
His Cys Arg Thr Arg Ser Trp Val Ser Phe Gly Leu Ala His Ala Thr
                725                 730                 735

Asn Ala Thr Leu Ala Phe Leu Cys Phe Leu Gly Thr Phe Leu Val Arg
            740                 745                 750

Ser Gln Pro Gly Arg Tyr Asn Arg Ala Arg Gly Leu Thr Phe Ala Met
        755                 760                 765

Leu Ala Tyr Phe Ile Thr Trp Val Ser Phe Val Pro Leu Leu Ala Asn
    770                 775                 780

Val Gln Val Val Leu Arg Pro Ala Val Gln Met Gly Ala Leu Leu Leu
785                 790                 795                 800

Cys Val Leu Gly Ile Leu Ala Ala Phe His Leu Pro Arg Cys Tyr Leu
                805                 810                 815

Leu Met Arg Gln Pro Gly Leu Asn Thr Pro Glu Phe Phe Leu Gly Gly
            820                 825                 830

Gly Pro Gly Asp Ala Gln Gly Gln Asn Asp Gly Asn Thr Gly Asn Gln
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Gly Lys His Glu
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35 40 45

Leu Pro Lys Asn Tyr Asn Glu Ala Lys Ala Ile Thr Phe Cys Leu Leu
50 55 60

Leu Leu Ile Leu Thr Trp Ile Ile Phe Thr Thr Ala Ser Leu Leu Tyr
65 70 75 80

Gln Gly Lys Tyr Ile His Ser Leu Asn Ala Leu Ala Val Leu Ser Ser
85 90 95

Ile Tyr Ser Phe Leu Leu Trp Tyr Phe Leu Pro Lys Cys Tyr Ile Ile
100 105 110

Ile Phe Gln Pro Gln Lys Asn Thr Gln Lys Tyr Phe Gln Gly Leu Ile
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Gln Asp Tyr Thr Lys Thr Ile Ser Gln
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20 25 30

Phe Phe Tyr Phe Glu Arg Pro Thr Glu Ala Phe Cys Ile Leu Arg Phe
35 40 45

Met Pro Phe Leu Leu Phe Tyr Ala Val Cys Leu Ala Cys Phe Ala Val
50 55 60

Arg Ser Phe Gln Ile Val Ile Ile Phe Lys Ile Ala Ala Lys Phe Pro
65 70 75 80

Arg Val His Ser Trp Trp Met Lys Tyr His Gly Gln Trp Leu Val Ile
85 90 95

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Ser Met Thr Phe Val Leu Gln Ala Val Val Ile Val Ile Gly Phe Ser
            100                 105                 110

Ser Asn Pro Pro Leu Pro Tyr Xaa Xaa Phe Val Ser Tyr Pro Asp Lys
        115                 120                 125

Ile Ile Leu Gly Cys Asp Val Asn Leu Asn Met Ala Ser Thr Ser Phe
    130                 135                 140

Phe Leu Leu Leu Leu Leu Cys Ile Leu Cys Phe Thr Phe Ser Tyr Met
145                 150                 155                 160

Gly Lys Asp Leu Pro Lys Asn Tyr Asn Glu Ala Lys Ala Ile Thr Phe
                165                 170                 175

Cys Leu Leu Leu Leu Leu Ile Leu Thr Trp Ile Ile Phe Ala Thr Ala Phe
            180                 185                 190

Met Leu Tyr His Gly Lys Tyr Ile His Thr Leu Asn Ala Leu Ala Val
        195                 200                 205

Leu Ser Ser Ala Tyr Cys Phe Leu Leu Trp Tyr Phe Leu Pro Lys Cys
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Tyr Ile Ile Ile Phe Gln Pro His Lys Asn Thr Gln Lys Tyr Phe Gln
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Leu Ser
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<400> 206

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Gln Asp Leu Asp Phe Tyr Met Asp Ser Ile Val Leu Glu Cys Ser Asn
        35                  40                  45

Thr Leu Ser Pro Gly Ser Phe Ile Glu Leu Cys Tyr Val Cys Val Leu
    50                  55                  60

Ser Val Leu Cys Phe Phe Phe Ser Tyr Met Gly Lys Asp Leu Pro Ala
65                  70                  75                  80

Asn Tyr Asn Glu Ala Lys Cys Val Thr Phe Ser Leu Met Val Tyr Met
                85                  90                  95

Ile Ser Trp Ile Ser Phe Phe Thr Val Tyr Leu Ile Ser Arg Gly Pro
            100                 105                 110
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Phe Thr Val Ala Ala Tyr Val Cys Ala Thr Leu Val Ser Val Leu Ala
        115                 120                 125

Phe Phe Gly Gly Tyr Phe Leu Pro Lys Ile Tyr Ile Ile Val Leu Lys
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Pro Gln Met Asn Thr Thr Ala His Phe Gln Asn Cys Ile Gln Met Tyr
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Thr Met Ser Lys Gln
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<210> 207
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Cys Leu Leu Met Thr Ser Ser Ser Ala Val Ile Leu Leu Leu Asn Ile
        35                  40                  45

Asn Thr Pro Val Ala Lys Ser Ala Gly Gly Xaa Thr Cys Xaa Leu Lys
    50                  55                  60

Leu Ala Ala Leu Thr Ala Ala Ala Met Ser Ser Xaa Cys His Phe Gly
65                  70                  75                  80

Gln Pro Ser Pro Leu Ala Ser Lys Leu Lys Gln Pro Gln Phe Thr Phe
                85                  90                  95

Ser Phe Thr Val Cys Leu Ala Cys Asn Arg Cys Ala Leu Ala Thr Gly
            100                 105                 110

His Leu His Phe Xaa Ile Arg Val Ala Leu Pro Pro Ala Tyr Asn Xaa
        115                 120                 125

Trp Ala Lys Asn His Gly Pro Xaa Ala Thr Ile Phe Ile Ala Ser Ala
    130                 135                 140

Ala Ile Leu Cys Val Leu Cys Leu Arg Val Ala Val Gly Pro Pro Gln
145                 150                 155                 160

Pro Ser Gln Asx Leu Asx Phe Xaa Thr Asn Ser Ile Xaa Leu Xaa Xaa
                165                 170                 175
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Ser Asn Thr Leu Ser Pro Gly Ser Phe Val Glu Leu Cys Asn Val Ser
180 185 190

Leu Leu Ser Ala Val Cys Phe Val Phe Ser Xaa Met Gly Lys Asx Leu
195 200 205

Pro Ala Asn Tyr Asn Glu Ala Lys Cys Val Thr Phe Ser Leu Met Val
210 215 220

Asn Xaa Ile Ser Trp Ile Ser Phe Phe Thr Val Tyr
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<212> DNA
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<220>
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